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The Need of Medical Leadership in Public Health Relations*

JAMES E. SADLIER, M.D., F.A.C.S.,
Poughkeepsie, N. Y.

THE Public Relations Committee of the Medical Society of the State of New York has looked with a great deal of admiration upon what has been done in Kings County and in the four counties of Long Island, and I wish to assure you that though we feel we are doing something upstate, nevertheless, we are deeply appreciative of the fact that you gentlemen down here on Long Island are doing a great deal and leading the way in Public Health matters.

The progress of medicine during the last half century, as you all know, has been a very intensive one. The discovery of the bacterial origin of disease, the general use of the laboratory and the revelation of the heretofore hidden sources of many of the diseases of mankind have led to an established knowledge relating to the prevention of disease. The pace has been so great in keeping up with the advances of the research laboratory that physicians generally have had all that they could do to keep abreast of the times in the field of curative medicine. Hence, these same discoveries which led to a knowledge of the causation of disease naturally

pointed the way to the prevention of disease, but busy practitioners seem not to have grasped this to as great an extent as we feel now that it is incumbent upon them so to do, and there have developed various lay organizations with an eagerness to demonstrate their prowess in preventive medicine, a virgin field as yet left almost untouched by the general practitioner.

We all know the result of that effort and how it has detracted from the prestige and leadership of the medical man, with a corresponding loss to the question of Public Health and Preventive Medicine. It is unfortunate that our medical organization had not developed its interest in Public Health and the prevention of disease earlier; that committees on Public Health and Public Relations had not been organized in our county societies many years ago so that they could have coordinated and cooperated with the various agencies of lay and social character that were anxious to do health work, who undoubtedly would have been willing to be advised and led by the medical profession.

Had this been so we can readily see where there would have been a more complete and harmonious cooperation in that demonstration carried on in Cat-

* Read before the Medical Society of the County of Kings, October 21, 1930.

taugaus County. Naturally, could there have been this ideal harmonious cooperation between those conducting the demonstration and the medical profession, it would have resulted in a greater advantage to the cause of Public Health. On the contrary, prior to the beginning of the demonstration there had been no organized effort upon the part of the medical profession to develop for such work. Hence, in that particular county discord arose which led to more or less disaster from the standpoint of proper cooperation of the medical body and coordination of all interests concerned.

Now, what are the objectives of the Committee on Public Relations of your State organization? We have heard them as they were all expressed by our President Dr. Ross, but to reiterate—To coordinate the relationships between all agencies having to do with health work, whether they be governmental, lay, or social. To develop the medical profession throughout the state to assume its new rôle and take over leadership in health activities. I like to think of the medical profession assuming leadership, as it should, in each individual county, and for a few moments I am going to tell you of some instances in this state where in certain counties it is very definitely so at the present time.

The third activity of the Public Relations Committee is to endeavor to adjust controversial matters.

This indicated the definite need of a Public Relations Committee in each county medical society whose greatest function should be to adjust, coordinate and harmonize all of the agencies in their respective counties that have to do with the health problem. So, under the presidency of Dr. George M. Fisher in 1926, a Committee on Public Relations was established.

Naturally, such controversial matters will from time to time arise and there should be a committee of the State Medical Society ready and willing to assist in the adjustment of such questions. Already several such instances have arisen, and with some effort on the part of our Committee they have been adjusted satisfactorily to all concerned.

Now, in order to have an effective organization, we not only required the state committee, but we required also a unit in each of the 60 county medical societies, a working unit, not simply one of those committees that exist in name only, but a definite virile committee. Hence some of us, not alone the Public Relations Committee, but the various Presidents of the State Society and others, have worked long and hard attending many meetings throughout the state addressing county societies and district branches, in an endeavor to have a real Public Relations Committee developed in each county and actively taking up the issues in that particular county.

In advising as to the appointees on these committees we have stressed very keenly the fact that we wish the committees made up of men who are leaders in the medical profession in their respective counties, and who would take a definite interest in this work.

In speaking of leaders, again I want to revert to your BULLETIN of August, 1930: I like the definition therein expressed:—

"A leader is one who through discretion and thought recognizes the existence of an issue, thinks it out to the end, feels that it is a problem with a solution, and then acts upon his conclusions."

I know of no better definition of a leader.

We developed in each county medical society a public relations committee, and then we asked each one of those committees to make a basic survey of what was being done along the line of public health and preventive medicine, and what was being done with reference to coordination and cooperation with the various other agencies working in the county. We felt that these basic surveys were important and would furnish a foundation upon which to build. We have thus far received a goodly number of surveys, not, however, as many as we would like, but they are coming in fairly well. Each one of these surveys has demonstrated to us that the medical profession was progressing along the line of leadership in many counties to a greater extent than we had anticipated. Each one was a revelation of the amount of work being done in that particular county, and the amount in some of them was astonishing.

Then, not receiving from a very considerable number of counties the survey and feeling that our efforts along the line of stimulating to activity these various county public relations committees was not working as well as it should, we met in conference in Albany September 18th of this year with the chairmen of the county public relations committees and talked over the problem of how to activate and encourage the work. Then, for the first time in three years, as we met that group of splendid leaders—34 of the counties of the state being represented, those of us on the state committee were very much heartened and encouraged in the work and we felt that the effort of the past three or four years had not been in vain. We heard from each individual county as to what they were doing and now I wish to tell you a few of the things that have happened in some of the upstate counties.

One of our most satisfactory accomplishments was in Steuben County, which is a large rural county located in the southern tier and containing two small cities. We met with the Public Relations Committee of that county at a luncheon meeting and representatives of 27 different organizations that are interested in the health problem met with us. There were present at the time, the chairman or some representative of each and every lay and social organization that had to do with health work in the county. The Chamber of Commerce was represented, the Health Department and the Board of Supervisors, all representing groups that were intense in their desire to promote health activities in their county and improve over the present methods. At this meeting a Public Welfare Council was organized under the leadership of the Public Relations Committee of the County Medical Society. This Welfare Council will coordinate all health activities in that large county and we can readily foresee what a force for advancement it is going to become in spreading the gospel of good health and preventive medicine.

Would that other counties might organize their various groups working in the field of health and thus unify and coordinate efforts which are now ununited and hence less effectual. Steuben County has pointed the way to proper medical relationships such as should exist in all counties of the state.

In the County of Dutchess where our Speaker of the House of Delegates of the State Medical Society has been, not only a dominant medical leader, but has worked most intensely as Chairman of the Committee on Public Relations, there has been gradually developed a most satisfactory working cooperation between the various groups Lay, Governmental and

Medical, that have to do with public health and prevention of disease. As a result of this unity and cooperation much is being accomplished. The field of service has been enlarged and harmony prevails. Under the present plan no activity in the field of health in Dutchess County is ever undertaken without previous consultation and approval from the Committee on Public Relations of the Medical Society of the County.

This county demonstrates the importance of Medical Leadership and the necessity of appointing to your Public Relations Committees men who recognize the importance of correlating and coordinating health activities under medical men; these physicians must be the key men of their societies, men who are thoughtful and aggressive and at the same time congenial and persuasive, but always impressing the public with the viewpoint that organized medicine must lead in all health work if it is to accomplish a maximum of result.

Oneida County is doing a wonderful piece of work in coordinating its various health activities under the chairmanship of Dr. Farrell of the Public Relations Committee. In fact, I doubt whether there is any county in the state that is carrying on a better health program or developing better preventive medicine. They are coordinating the public health, lay and social agencies and working out most satisfactory relationships.

At the conference in Albany on September 18th, we heard of a county, rural in character, with no city within its borders and no general hospital, but with 47,000 people. In that particular county there had been such proper coordination, such splendid activity that at the present time it (Wayne County) has 67 per cent. of its children under 10 years of age immunized against diphtheria. This is an example of what can be accomplished by proper cooperation and coordination, and represents a masterly piece of health work.

Public Relations Committees in the County Medical Societies are cooperating in some counties for the purpose of furthering some one important piece of work. Such is the case with reference to the pre-school examination by the individual family physician, who is the proper person to do this work. Here again the counties of Kings and Queens are far in advance yet Franklin County has done advanced work along this line and even carried it to the point of making x-ray examinations of lungs of the children. Chautauqua County has also carried on this advanced type of school examination. These measures can only be used in a county where there is proper cooperation between medical and lay groups as they must, of necessity, mean the expenditure of considerable amounts of money. It is doubtful if many counties as yet can follow the pace set by these two counties in their pre-school examinations of children.

Then there is a county up in the Adirondack region that some of us had not heard very much about of late years. I refer to Warren County, which has a population of about 40,000, about half of them in the City of Glens Falls. The chairman of the Public Relations Committee of that county at the conference of September 18th told us of some of the things that had been accomplished there, notably the fact that the State Department of Health asked the county government to purify the water. The county government refused to do so, and thereupon the medical profession put on an active campaign through its Public Relations Committee in favor of the wishes of

the health authorities of the state and the county government finally agreed to do it. They led the Parents-Teachers' Association in an active campaign for examination of the pre-school child.

The study of maternal mortality in Clinton County, N. Y., recently completed by the Medical Society of that county, is an indication of medical leadership that stands out conspicuously in this state and points to the latent possibilities in all of our county organizations. This is a piece of real medical progress. The survey, soon to be published in the *New York State Journal of Medicine*, should be widely read, not only for its intrinsic worth but as an indication of the progress of the future from the viewpoint of organized medicine leading into the field of research.

I should like to tell you about the county and state owned hospitals in Lewis and Wyoming Counties, which is a problem that we on the Public Relations Committee have worked over and studied and have been most anxious about, and which at present seems to be developing along proper lines. This is going to mean a hospital privilege for each one of the practicing physicians in those two large rural counties.

We are impressed by the fine type of leadership and proper public relations, from a medical standpoint, that exist in Montgomery County, where many health activities are in progress under the active control of organized medicine.

Just a few days ago I had a second survey from Ulster County telling that in that particular county there was very active and splendid cooperation between the various agencies. That, in order to get the children of pre-school age properly examined the Public Relations Committee had actually taken over the work itself.

I could go on for a considerable period of time telling you of the plans in the different counties; this newer plan of dealing with the health problem and newer activity for the medical profession whereby proper service will be rendered, where economic advantage will accrue, but where (and this is most important of all) the physician will be restored to his former position and prestige with the public. The medical profession, as a whole, has not accepted the present advanced position in preventive medicine. In some instances it is not fully in touch with the trend of the times. Governmental and lay organizations, as we find them upstate, are anxious and willing to accept medical leadership. Without exception I know of no instance where a lay organization would not accept the advice and counsel of the medical profession. In fact, we find these lay organizations anxious to accept such advice and counsel from our profession.

The great point about all this is that it means a mass of work for the physicians in their respective counties. We have asked them to carry on; they are doing it in most counties very nicely; they are accepting and have formulated plans and methods, are advising with us, and if we can continue this throughout the future years I doubt whether we will ever drift to either state or socialized medicine, or have developed for us any general insurance plan.

295 Mill Street.

Health and the Home

Conduct and behavior problems, which frequently are involved in upsetting the home, are many times direct health problems and call for the attention of the physician or surgeon rather than the judge or the law enforcement officer.

Surgical Diseases of the Spleen*

MOSES BEHREND, A.M., M.D., F.A.C.S.

Philadelphia, Pa.

A CONSIDERATION of the surgical diseases of the spleen is incomplete without some reference to the physiology of this important organ. Krumbhaar reminds us that it is the largest lymphoid structure of the body, and one of the chief seats of the cells of the reticulo-endothelial system. The outstanding functions of the spleen seem to be carried out by these lymphoid and reticulo-endothelial cells, and since they are also generously located in other parts of the body it may account for the fact that the organ is not essential to life.

In the spleen two types of rhythmic contraction have been observed; namely a very slow expansion and contraction related perhaps to the digestive function, and a rapid systole and diastole at intervals of about a minute. This has led some observers to suppose that the spleen has a specific circulation. A gradually progressive decrease in volume occurs too with the advance of old age.

The large pale lymphocytes of the malpighian follicles seem to have two functions. They enter the blood stream as lymphocytes under both normal and pathological conditions; also they phagocytize leucocytes and bacteria in the spleen. The supporting reticulum of the pulp and the sinus endothelium constitute the reticulo-endothelial system of Aschoff. The cells of this system have a remarkable phagocytic affinity for effete red blood corpuscles, bacteria and foreign pigment. Erythrocytes are rendered more fragile and are destroyed in the spleen. Mann, using a very delicate apparatus, is able to demonstrate a slight increase in bilirubin in venous over arterial splenic blood. Blood destruction in conditions such as hemolytic jaundice, Banti's disease and pernicious anemia is markedly reduced after splenectomy. The question of whether the structure secretes some hormone which stimulates or inhibits blood formation is still unsettled but Krumbhaar believes the stimulatory substance is produced.

Barcroft has recently shown that the rapid increase in blood volume and hemoglobin content at high temperatures and at high altitudes is dependent on the reservoir function of the organ. He also showed that rats subjected to breathing carbon monoxide gas retain the gas longer as hemoglobin in the splenic blood than in the circulating blood.

Undoubtedly the spleen both forms and stores antibodies. After removal this function is taken up by other organs so it is altogether probable that the reticulo-endothelial cells assume this function. The scarcity of tumor metastases to the spleen indicates that possibly there is some specific resistance here, but this is not yet proven. Relation to growth and digestion, basal metabolism and calcium metabolism, nitrogen metabolism and carbohydrate metabolism is still disputed. Finally Cannon has shown that the spleen as well as other parts of the splanchnic area suffer considerable decrease in volume when supra-renal is administered. The vessels of the heart, brain, lungs and muscles are relatively unaffected

so that these parts are well supplied with blood when most needed, that is in fear, emotion, etc.

In the production of white blood corpuscles the function of the spleen is only a minor rôle, as compared with its ability to destroy red blood corpuscles, and to act as a filter. The failure of the spleen to filter microorganisms causes enlarged spleens such as are found in syphilis, malaria and sepsis. Under these conditioned white blood corpuscles may be formed in great numbers causing the various types of leukemia. When the spleen loses its efficiency to destroy red blood corpuscles splenomegaly results as is the case in hemolytic jaundice. Curiously enough the spleen exercises a specific action depending on the disease; in hemolytic jaundice, for instance, the red blood corpuscles are not destroyed sufficiently fast, while in hemorrhagic purpura the blood platelets suffer most.

The circulation received by the spleen considering the size of the normal organ is enormous. While the splenic artery is large the splenic vein is still larger on account of its greater elasticity. In disease, splenomegaly especially, these blood vessels increase still more in size. That the normal spleen is able to cope with the large volume of blood it receives is due to the fact that this blood does not tarry long there, because the large splenic vein, as part of the portal system, carries the blood to the liver for still further segregation of its products.

Splenectomy has been performed for many diseases such as those due to the toxic infections like syphilis and tuberculosis, or diseases associated with abnormality of the R. B. C. such as hemolytic icterus, pernicious anemia, and also those diseases in which there is an interference with the W. B. C. such as myelogenous leukemia and lymphosarcoma. However, in this discussion, obviously, we must confine ourselves to the conditions for which we have personally operated.

Our experience deals with 15 cases, including myelogenous leukemia, hemolytic jaundice, pernicious anemia, Banti's disease, splenomegaly due to toxemia, traumatism and diffuse angioma.

Among these the most recent case, that of diffuse angioma, is the rarest. It was referred by Dr. P. Weinstein, and was operated upon in the Jefferson Hospital during the past summer. It occurred in a child, H. A. Mc. G., age 14. He complained of pain in the legs which his mother attributed to growing pains. He had had the usual diseases of childhood; bilateral pulmonary tuberculosis at ten when he was sick for one year. He has always had a severe anemia since his second year. Examination revealed an undersized emaciated child with pinched features. He had dyspnea which became worse on exertion. His lips were white and there was absence of color in the conjunctiva. The spleen was very much enlarged. Its rounded border was easily palpable and the liver could readily be outlined.

The child received many transfusions. The week before operation he was given a transfusion almost daily. Two transfusions were given immediately

* Read before the Northern Medical Association, Philadelphia, Pa., Nov. 17th, 1930.

after operation. The spleen after removal presented a peculiar appearance; the surface was rough; there were numerous elevations cystic in character and these contained blood. Hundreds of them were distributed throughout the pulp of the spleen. The same condition was noted in the liver though to a less marked degree. A specimen was taken from the liver which microscopically showed the same changes as those found in the spleen.

We operated on this case in the face of all medical opposition with two exceptions, that of the family physician and Dr. Rosenthal of N. Y. The patient after a stormy convalescence made nevertheless a brilliant ultimate recovery. He has gained 18 pounds in weight. He now looks like a boy of his age, with clear complexion and pink lips.

The blood count before and after operation will attest to his improved condition.

	Hemoglobin	R.B.C.	W.B.C.
Before operation	22%	2,150,000	5700
5 months after operation.	70%	4,200,000	7600

At a later date this case will be reported by Dr. Weinstein in full.

This case confirms the statement of Dr. Wm. Mayo. In a recent paper in which he reported 530 cases of splenectomy he states that even in apparently hopeless cases one should give the patient the benefit of operation.

HEMOLYTIC JAUNDICE

A distinction must always be made between obstructive jaundice and that due to a hematogenous origin. In the majority of instances the differentiation is easy. Jaundice due to obstruction is always more intense than that experienced in hemolytic jaundice. Obstructive jaundice may be painless or painful. In the latter case a benign condition is usually present; jaundice without discomfort is almost invariably due to malignancy and follows the well known law of Courvoisier. In hemolytic jaundice we find a mild tinge of yellow in the skin and conjunctiva. Examination of the abdomen reveals an enlarged spleen, which is never found in obstructive jaundice. The Van den Bergh test is of importance in the differentiation.

An R. N., M. K. S., age 26, was admitted to the Jewish Hospital Jan. 28th, 1929, and discharged Mar. 1, 1929. The case was referred by Dr. S. Kohlman. She was pale and complained of weakness. Examination showed a well developed girl, rather anemic, pale lips and cheeks with an icteroid tinge to the skin and sclera. The abdomen was fairly full, without tenderness or rigidity. The spleen was easily palpable and not tender. Several transfusions were given before operation which was performed Feb. 2nd, 1929. The spleen and three accessory spleens were removed. There were many adhesions of the superior pole to the diaphragm. Pathological microscopy shows there was extensive destruction of the splenic pulp, the tissue was infiltrated with many R.B.C., and there was considerable fibrous overgrowth.

	Hemoglobin	R.B.C.	W.B.C.
Blood count 1/29/29....	48	2,000,000	9000
Hemolysis starts at .48 and ends at .32.			
2/10/29 Reticulocytes....	0.4%	3/2/29....	0.2%
2/22/29 Platelets	1,300,000.		
Van den Bergh direct negative, indirect 1.			
Eighteen months after operation blood count is as follows:—			

	Hemoglobin	R.B.C.	W.B.C.
6/1/30	80	4,300,000	20,000
Platelets	310,000		

It is agreed that the best and most gratifying results from splenectomy are noted in these cases of hemolytic jaundice. This particular patient had been dragging herself around for years on account of the dysfunction of the spleen causing a hemoglobin of 48. Fever always accompanied the explosions in the spleen because of a massive accumulation of R.B.C.'s which the spleen was unable to take care of. She feels well now and expects to be married in the near future. Dr. Kohlman will report this case in full.

MYELOGENOUS LEUKEMIA

Osler considered this a rare condition occurring much less frequently than pernicious anemia. Nothing is known of its cause. It is supposed to be twice as common in males as in females. The spleen attains an enormous size and fluctuations in size are frequent. It is known that the x-ray will reduce the spleen to almost normal proportions but as soon as these treatments are stopped the spleen again returns to its abnormal size. This is exactly what happened in the case to be reported. It is always good judgment to reduce the size of the splenomegaly before operation. Operation is curative.

The patient, V. N., age 31, female, admitted to the Jewish Hospital 8/18/24, Discharged 9/7/24. She complained of frequent headaches, nausea, vomiting and weakness. There were vague pains in the abdomen. Five months before admission she noticed a swelling in the upper left abdomen. She lost 40 pounds in weight within four months. Three months ago she had marked distaste for food, dizziness, precordial pain and dyspnea. Insomnia for 6 months. The blood picture always presents a great increase in the leucocytes and a remission in these after the spleen has been removed.

	Hemoglobin	R.B.C.	W.B.C.
Blood count Aug. 16, 1924	70%	2,700,000	100,300
No Normablasts or Megaloblasts. Some polychromatophilia.			

Poly. 82%; S. L. 4%; Eosin. 4%; Myelocytes 27%.

Operation was performed on Aug. 19th, 1924. Several blood transfusions were given before and after operation.

Pathological report: The spleen measures 32x12 x 6cm. External surface is smooth, the capsule strips easily. On section the surface is gray. Microscopically there is destruction of splenic pulp, also numerous myelocytes in the pulp and blood vessels.

GAUCHER'S DISEASE

We had one case which resembled this condition, but on account of the deterioration of the spleen after removal we could not obtain a microscopic report. This is also a rare disease affecting the spleen. According to Conner of the Mayo Clinic, only 24 cases had been reported up to 1920.

This patient was a child, A. G., age 12, admitted to the Northern Liberties Hospital, 6/24/28, and referred by Dr. Snyderman. In October, 1927, she developed poliomyelitis and was paralyzed for three months. Recovery was slow but she regained power in her arms and legs. In April there was edema of the legs, weakness and emaciation of other parts of the body. On admission she complained of great weakness, and distention of the abdomen. A mass

was easily palpated which extended past the middle line to the right side of the abdomen. The mass was of huge size and seemed to be fixed. There was no ascites or enlargement of the liver. Wassermann was negative.

Hemoglobin R.B.C. W.B.C.
Blood count 6/25/28 60 3,190,000 6500
Poly. 76%; L.M. 7%; S.L. 12%; Bas. 3%; Trans. 2%

Operation was performed July 6th, 1928. A very large spleen was removed without difficulty. A few hours afterwards the patient died, supposedly from hemorrhage, but this has never been proven to our satisfaction as we could not obtain a post mortem. The fact that this patient had had poliomyelitis always seemed to us a factor in the cause of death. This case and one accident case are the only ones in our series that terminated fatally.

PERNICIOUS ANEMIA

Since the advent of the use of fresh liver and the various liver extracts in the diet of the patient the operation of splenectomy for pernicious anemia has lost its popularity and rightly so. Operation in these cases while immediately successful in the great majority rarely helped to restore the normal quality of the blood.

The patient, S. L., age 35, was operated upon in Sept. 1924, at the Mt. Sinai Hospital, having been admitted to the service of Dr. Shmookler and referred by him to the surgical service. She was discharged 11/1/24. She complained of great weakness and prostration. Complexion lemon yellow in color. She was treated on several occasions with hematinics. Points of focal infection were eliminated; many blood transfusions were given. At operation the spleen was found to be hard and large. Two accessory spleens were allowed to remain. It was extremely difficult to give this patient transfusions on account of anaphylactic shock which was experienced with every donor's blood except one. From this donor 1000 c.c. could be given without ill effect. Splenectomy failed to prevent the downward course of the blood picture.

Hemoglobin R.B.C. W.B.C.
Blood picture, 9/8/24. ... 58 1,860,000 5800
Poly. 80 S.M. 20

Anisocytosis, poikilocytosis and macrocytes.

Hemoglobin R.B.C. W.B.C.
10/31/24 63 2,990,000 3400
Poly. 33; S.M. 64; L.M. 2; Normoblasts 5.

Pathology: Spleen measured 16x9x5. Purplish in color, capsule smooth and strips easily. Spleen markedly enlarged and cuts with resistance. Cut surface dark red in color, smooth and like nutmeg in appearance. Microscopy and diagnosis. Chronic Fibrosis of spleen.

BANTI'S DISEASE

The precursor of Banti's disease is the condition known as splenic anemia. The disease is an insidious one and its duration many years. The symptoms are weakness, malaise and hematemesis. A large spleen accompanies the condition. Hemorrhage is one of the important diagnostic signs. The blood picture is unchanged until in the latter course of the disease when a secondary anemia ensues. Finally the liver enlarges and becomes cirrhotic, after which ascites occurs. Here the surgeon must sound a note of warning. Most of these cases for which he is called to operate are referred to him too late in the course

of the disease. In the presence of ascites and the degeneration of the organs which follows little can be expected from surgery. When to operate on these cases requires considerable judgment. One must be selective; the liver functional tests which we employ so frequently now are of much help in the selection of suitable cases for operation. It has been the experience of those working in the largest clinics that even advanced cases have recovered permanently following operation.

J. H., age 17, admitted to Mt. Sinai Hospital 9/8/26. Discharged 10/19/26. Referred by Dr. Rubenstone. The day before admission the patient had sudden abdominal pain, nausea, and vomiting of about a pint of blood. He was well nourished, had slight pallor, diseased tonsils and an enlarged spleen with a small liver. He received x-ray treatment and neosalvarsan but the size of the spleen was unaffected.

Hemoglobin R.B.C. W.B.C.
Blood picture 9/8/26 78 4,030,000 4400
Poly. 61; S. 1.34; Eosin. 1; Trans. 2.
Blood platelets 250,000.

Hemoglobin R.B.C. W.B.C.
10/15/26 55 3,860,000 10,400
Poly. 83; L.M. 83; S.L. 9; Tr. 6; Eosin. 2.
Platelets 940,000.

9/9/26 Bleeding time 6 minutes. Icterus index 6.5. Frag. starts at .36 and ends .63.

Operation was performed Oct. 21st, 1926. An accessory spleen was removed. It measured 20½x12x4½ c.m. It was firm, dark brown in color, covered with white patches and cut with resistance, the cut surface being smooth. Microscopy: Marked increase in fibrous connective tissue which in some areas replaces the splenic tissue. Malpighian tufts, hyperplastic and fibrotic. Vessels thickened and fibrosed and almost occluded. Diffuse infiltration of blood pigment. Diagnosis: Chronic hyperplastic spleen.

Following the patient's discharge from the hospital 10/14/28, he rested for ten weeks, when he returned to high school, attending also to his paper route. For 5 weeks he was also stock boy. He now is symptom free, plays on the football team and weighs 170 pounds. There is no pallor. Heart and lungs are in good condition, and the scar is well healed.

Two years later, 11/14/30, he is now employed by The Victor Talking Machine Co. as an inspector. He is in excellent health and does not receive any medical attention.

Another case of Banti's disease is the following: M. K., admitted to the Mt. Sinai Hospital, 4/1/27. Discharged 5/10/27. Referred by Dr. Shmookler. His chief complaint was occasional jaundice and the spitting of blood for several days. Four months ago he left the hospital against advice. Stools continued brownish black in color after blood spitting ceased. Now he complains of great weakness. Examination shows a pale looking young boy whose abdomen reveals a small liver; the abdomen is soft, no tenderness. In the left hypochondriac region there is a mass dull in percussion from the 4th interspace of the axillary line to the umbilicus. The mass is triangular in shape, smooth and hard. Operation was performed 4/8/27. A huge spleen and a cirrhotic liver were found. There was marked bleeding during the operation.

(Concluded on following page)

Splenectomy in a Case of Haemolytic Jaundice*

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CASE No. 137197, S. L., female, age 29, was admitted to the Medical Service of Dr. Eugene S. Dalton at the Methodist Episcopal Hospital, Apr. 3, 1930, complaining of progressive loss of appetite and weakness. Six months previously she had been under the care of her family physician who advised her to go to the country for a rest. At that time conditions at home were such as to make this impossible; she continued working as a secretary and in a short while noticed some dyspnea. Two months before she came to the hospital she became jaundiced and again consulted her physician, who found her haemoglobin percentage was 40, and persuaded her to go to Lake Hopatcong where she rested for three weeks. Finding her weakness more marked and her haemoglobin 30% she saw Dr. Dalton and was admitted to the hospital.

The previous and family histories were irrelevant and the physical examination showed a dry skin of lemon yellow color, an icteroid tinge to the sclera and pallor of all mucous membranes. The spleen was tender and enlarged to below the level of the umbilicus and the liver to two finger breadths below the ribs. The heart and lungs were negative. No other abnormalities were noted. The temperature was 103°, pulse 120, and respirations 24. Eight repeated urine analyses showed a persistent low specific gravity of 1010 to 1012, on four occasions a faint trace of albumen, twice acetone and diacetic acid, but they were all sugar-free. The temperature for 2 weeks, with one exception, ranged between 101° and 102°, then subsided gradually to practically normal. The pulse and respiratory rates were proportional. In all, twenty-one blood examinations were made. One on the day of admission showed a color index of 1.4, 952,000 red cells, 20% haemoglobin, 8,900 leucocytes, 56% polys, marked poikilocytosis and anisocytosis, polychromasia with normoblasts and megaloblasts, and the pathologist, Dr. Esmond B. Smith, diagnosed pernicious anemia. Accordingly she was put on

tonics, liver diet, and given a course of Zamboni. On the 2nd, 8th and 16th days she was transfused by Dr. Henry F. Graham by the Unger method, and was given 850, 550 and 600 cubic centimeters of blood respectively. Following the first transfusion she had a marked reaction, the temperature reached 105°, and she was very weak the next day, but her red cells increased 600,000 and her haemoglobin 11%. The improvement was temporary as evidenced by her count 6 days later of 20% haemoglobin and 770,000 red cells, and she was again transfused with the following result. Color index 1.3, red cells 1,220,000, haemoglobin 32%. Four days after this transfusion the red cells were 800,000, haemoglobin 23%, and her general condition was still grave. The third attempt, however, on the 18th day, seemed to cause a definite though slight improvement, and she was allowed home on the 27th day with 1,300,000 red cells and 31% haemoglobin. The diagnosis was pernicious anemia.

Eleven days later she was readmitted unimproved with 1,240,000 red cells, 27% haemoglobin, 3,800 leucocytes, polys 24% and coagulation time 3½ minutes. Anisocytosis, poikilocytosis and polychromatophilia were definite, a few megaloblasts, normoblasts and microcytes being present. The Wassermann was negative. The platelets were proportionately diminished to 150,000. The blood chemistry was sugar 107, creatinin 83, Urea 17. She was again given liver diet, liver extract, Zamboni treatment and Armour's bone marrow with a result as disappointing as in her first stay in the hospital. Transfusions of 500 and 550 c.c. were again resorted to on the 2nd, 10th and 61st days, the first and second by Dr. Graham, the third by Dr. Seymour Clark, and the fourth by the writer. Each of these with the exception of the last resulted in the usual increase in red cells from 500,000 to 970,000 and the haemoglobin from 8 to 12%, with a rapid drop in several days down to the previous levels. At one time the platelet count was 76,000. As mentioned above the re-

* Read before the Brooklyn Surgical Society, November 6, 1930.

	Hemoglobin R.B.C.	W.B.C.
Blood picture 4/2/27	27	4,100,000
Poly. 63; L.M. 13; S.M. 19; Tr. 5.		
4/6/27 Blood fragility—hemolysis starts	.59,	ends
24. Icterus index 14.		
Blood platelets 230,000.	Blood Coag. 8 Min.	
5/5/27 Blood platelets	210,000.	

	Hemoglobin R.B.C.	W.B.C.
5/4/27	85	4,540,000
Poly. 62; L.M. 29; S.M. 4; Tr. 4.		11700

Pathological report: Weight of spleen 775 Gms. Size 21½x13x6½ cm. Capsule is adherent. Millet seed projections on surface. Cuts with normal resistance. Dark red area of infarction. Connective tissue clearly outlined. Microscopy: Cellular hyperplasia. Malpighian bodies show fibrosis. Hemorrhagic extravasation in venous sinuses and intercellular spaces, with marked dilatation of venous channels. Lymph sinuses dilated. Diagnosis: Chronic hyperplastic splenitis.

In conclusion, the most noticeable symptom complained of in all these cases was physical weakness. In addition there were of course special symptoms depending on the condition we were treating. Also there were individual blood pictures characteristic of the disease affecting the spleen; however, one must bear in mind that there may be no typical blood count. A knowledge of the physiology of the spleen is of benefit in treating and understanding the various affections of the spleen.

Finally it has been demonstrated that splenectomy is a life saving measure. The majority of our cases are pursuing useful occupations; those not old enough to do this are enjoying a normal life instead of one of invalidism.

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sults of the fourth transfusion were unusual. 500 c.c. were given without difficulty or anaphylactic reaction, but strangely, later that same day, examination showed there was a loss since the previous day of 120,000 red cells and 4% haemoglobin. One might conclude that I should have left this work to the others but I believe it indicated an exacerbation of her condition with failure of haematopoietic function and rapid destruction of the blood elements. On or about the 40th day, due to the failure of all known means for combating pernicious anemia, there arose a suspicion as to the correctness of the diagnosis. On the 44th day a fragility test showed beginning haemolysis of the red cells at .55%, which was complete at .325%. Again on the 57th day, the percentages were, beginning, .55%, complete .4%. These reports were very strongly suggestive of a haemolytic jaundice and further study revealed reticulated red cells, normoblasts and microcytes as confirmative evidence.

On the 70th day the count had dropped to 960,000 red cells and 23% haemoglobin, and 2 days later at Dr. Dalton's request I operated upon her, proceeding as follows:

A full strength H.M.C. tablet was given hypodermically one hour before the operation. A transfusion of 600 c.c. was given; 3 c.c. of spinocaine were injected into the subarachnoid space (3d lumbar interspace), after an estimation of the blood pressure (100 systolic, 50 diastolic), and a preliminary skin anesthesia over the puncture site with the usual ampule of a solution of ephedrine and novocaine. The analgesia was not complete and nitrous oxide and ether were used to control the patient. Through an upper oblique left rectus incision to the outer edge of the rectus muscle with a vertical extension downwards to below the umbilicus, the spleen was readily explored and freed of some fine adhesions on the side of the diaphragm. It was carefully and without much difficulty delivered from the abdomen, the lower pole being brought out first. An assistant gently drew the spleen to the left, the pedicle was clamped and cut, and the organ removed. Interlocking suture ligatures of chromic catgut were inserted in the pedicle and tied as the clamps were removed. The stump was peritonealized and dropped back. No accessory spleen was found. Bleeding was slight. The abdomen was closed without drainage in layers with chromic catgut, silk worm gut tension sutures, and continuous linen in the skin. Another transfusion was attempted but only 110 c.c. were given as the patient inadvertently moved and displaced the needle, and it was deemed inadvisable to start over again as the patient had lost very little blood and seemed to be in good condition.

The post-operative course was most satisfying. Temperature rose to 105° that day but receded rapidly to 101° on the 2nd day, and thereafter never went above that point. The blood pressure for several days ranged between 105 and 115 systolic and 45 to 70 diastolic. The blood picture improved rapidly, a count of 3,150,000 red cells, 48% haemoglobin, and 562,000 platelets being present on the 11th day, and the stained smears showing a more normal picture. More remarkable was the improvement in the patient's appearance and her sense of well being. Within a few days the fading of the jaundice in her skin and sclera was remarked by all, her strength returned rapidly and she was lively and cheerful. The skin sutures were removed on the 7th, and the silk worm sutures on the 9th day. The wound healed

by first intention. Patient vomited but twice post-operatively. She was allowed home on the 19th day.

Report of the gross pathology. A spleen weighing 1100 grams and measuring 16 x 15 x 8 cms. The capsule was tense, smooth, dark red, dull and thickened and the edges of the organ were rounded. On section the tissue was shiny and had a beefy look. The pulp was solid and firm to the touch. Trabeculae with spots the size of a pin head were seen. Iodine test gave a brownish but not a real mahogany reaction.

Microscopically there is a marked decrease in lymphoid tissue, some increase in reticulum and tremendous distention of the blood spaces with broken down blood. The gross appearance of the cut surface and the iodine reaction suggested amyloid degeneration but this could not be confirmed in the Van Gieson stained specimen. A special stain for blood pigment shows the presence of hemosiderin, hematin and biliverdin, indicating excessive blood destruction. There is no pathognomonic picture of haemolytic jaundice but the present findings are quite similar to the picture described in published cases of familial haemolytic jaundice.

(Signed) Esmond B. Smith.

In looking over Dr. Dalton's continuous history notes, one can sense his disappointment in the failure of this patient to react to tonics, liver diet and extracts as she should have, had she been suffering from pernicious anemia as was at first reasonably suspected, and can readily follow his methodical trail to his final pre-operative diagnosis of haemolytic jaundice. I cannot help a slight digression at this time to give him due credit.

There are two types of haemolytic jaundice both characterized by splenomegaly, increased fragility of the red blood cells with their resulting rapid destruction leading to anemia, acholuric jaundice (without itching, bradycardia or bilirubinuria), ultimate failure of the hematopoietic function as evidenced by increasing numbers of microcytes and reticulated red cells and sometimes death. The first is the Hayem-Widal or acquired type, under which group this case seems to fall,—the second the familial or congenital or Chauffard-Minkowski type. In the latter group are those cases which have a family history, or have had attacks since birth or at least repeated attacks. In the former group are those cases which come on suddenly in adult life without history of previous attacks. Authorities do not agree as to whether the trouble is primarily in the spleen or in the red cells, but the excellent results occurring in these cases following splenectomy seem to argue in favor of the former view. The possibility of previous disease or foci of infection acting as causative factors is still a subject of debate.

It is, however, in this class of case that splenectomy gives us its most brilliant results. According to Nelson the improvement following this procedure is permanent. He urges early splenectomy, before the patient's condition is so bad that an operation is contraindicated, and he claims over 100 cases have been reported with an operative mortality of about 5%. Wm. J. Mayo in *Annals of Surgery* 70:20, 1919, reporting 27 cases with one death, attributes the fatality to operating during an exacerbation and advises against it.

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(Discussion appears on page 210)

Further Studies in Maternal Mortality

How Shall We Lower It?

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Last year we begged the question "How Shall We Lower Maternal Mortality?"* and prayed that American records might soon stand out more favorably, in comparisons, than in the recent past.

Our prayer has not been thus far answered, as 1930 records were even some what more disappointing than those of 1929, which we then criticized.

	Maternal Deaths in City	Maternal Deaths in Queens	City Rate	Queens Rate
1930	667	97	5.43	5.16
1929	628	89	5.05	4.91

We have begun to wonder whether foreign and domestic classifications of maternal deaths differ in such ways as to handicap American figures, viz., are foreign statistics including—as American figures do—all deaths due to pregnancy, irrespective of the period of gestation?

If ectopics, septic abortions, etc., were to be eliminated from American maternal mortality figures, our records would be substantially lowered. We are promised an early reply to our inquiry on this subject addressed to Washington, D. C., by the Health Commissioner, Dr. Wynne, on our behalf.

Sepsis Ectopic Cesarean Eclampsia

Our previous article recited the most prevalent causes of 89 deaths in 1929

We find the prevalent causes of 97 deaths in

1930	19	12	11	26
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Note the marked increase in eclamptic fatalities in 1930.

Our present knowledge would indicate that in these outstanding causes:

Sepsis is to be countered by: Personal hygiene of patient, and wholesome and scrupulous aseptic methods of attendant and nurse. Less frequent digital examinations. Less operative interference.

Eclampsia is to be countered by: Improved prenatal study and technique. Diet and metabolism.

Cesarean is to be countered by: Improved judgment as to its frequent necessity. Limitation of its performance to the highly skilled and experienced.

Ectopic is to be countered by: Improved diagnostic skill, caution, and thoughtfulness. Its prospect is to be borne better and always in mind. Surgical and well-timed interference.

Hospital vs. Home Records

It is rather amazing to note that, with all the superior advantages that hospitals enjoy in trained care and equipment, with all the facilities and advantages which should make for safety to life, and lessened morbidity, that the records of both years show hospital mortalities vastly in excess of home results.

1929.—77 deaths in 10,250 hospital births showed 86% of total; 12 deaths in 7,800 home births showed 13% of total.

1930.—81 deaths in 11,400 hospital births showed

83.5% of total; 16 deaths in 7,300 home births showed 16.5% of total.

Death Rate per 1,000 live births—Hospital, 6.85; Home, 2.29.

Yet there was a grouping of 317 cases in one hospital without a maternal death, and a group of 267 cases in another hospital without a maternal death.

We have always been ready to agree that hospital service is commonly handicapped by having to care for cases with antecedent history of dystocia, and by being asked to be the haven of last resort when extreme difficulty or tragedy threatens.

An analysis of the figures of the cases of the six general hospitals where no preliminary arrangements had been made with the hospital for their delivery therein, and where, because of this, cases might be said to be emergent in character, proved very disappointing, as they indicate proportions only of 4.9 average per cent of delivered cases.

So, increased hospital death rates are scarcely to be explained on this latter thesis at least.

Are the selected, and most to be dreaded, deliveries, because of antecedent history, the reason for greater hospital fatalities? We do know that many primiparae are included in hospital lists and we also know that the propensity of many today is toward hospital care—so that dread, born of previous history, is not by any means always the activating element in selecting hospital delivery.

Can it be that surgical obstetrics is by any possibility being overdone in hospital service as contrasted with the conservatism of the home and is it responsible for any part in the less favorable figures?

A computation has been made, in this connection, of the frequency with which cesarean has been performed in various hospitals. Hospital records show that this operation was performed in 1 of every 33, 1 of every 46, 1 of every 50, 1 of every 57, 1 of every 89, 1 of every 158, in the general hospitals. And in private hospitals, the frequency shows 1 in every 33, 1 in every 40, 1 in every 43, 1 in every 120, and no cesareans in a group of 98 cases in one hospital.

In a series of 40 cases in one of these groupings, cesarean mortality was 10%. In another of 22 cases there was a 9% mortality, and in still another there was 6.6% mortality. In the groupings of three others representing 19 cases, there were no fatalities. 11 of our 97 deaths were related directly or indirectly to cesarean cases—fatalities 11%.

We cannot help reiterating a protest against the rapidly progressing tendency of the times to find cesareans imperative. Unless pelvic deformity and incapacity have increased in the same proportion over the cases of the recent past, it is difficult to understand why cesarean's mandatory indications seem to grow in almost arithmetical progression.

Toxemia

Toxemia has been again devastating in its results. We have registered 26 fatal cases in 1930 as compared with 14 in 1929—almost doubling the number. It indicates the toll the pregnant woman is paying to the circulatory, metabolic, and excretory dysfunction of the system impressed upon it by gestation.

* New York State Medical Journal, September 1, 1930.

Prenatal

Prenatal service has increased materially by the records (70% in 1930—13% in 1929) and yet eclamptic fatalities have doubled. It is this prenatal instruction and training which should offer us the best control against toxemia.

Personally, we believe the estimate to be over-generous, which records 94%, 99.98, and 95% respectively, in the service of general hospitals. No doubt, in the routine of arranged hospital deliveries, the work is uniformly carried out. But in other instances, has it begun sufficiently early to have anticipated the worst dangers of pregnancy?

Nor is all preliminary care thorough enough in gen-

consider how frequently heart collapse and lesion are set down as causes of maternal deaths.

More helpfulness from anesthesia and less resignation to impossible strain may be more fruitful in safeguarding life, as well as being more humane to those who would otherwise suffer severely.

Sepsis

We have attempted a study in our questionnaire as to the relative incidence of sepsis in midwives' and physicians' services (see photostat chart attached). But four fatal cases throughout the year were traceable to the antecedent care of a midwife, in the 14 fatal sepsis cases arising in our *Queens* deliveries.

Can it be that her relative indisposition to make ante-

General Hospitals	Births of 1930	Maternal Deaths from all causes of pregnancy	Maternal Death Rate in Viable Births	Caesareans Performed	Emergency Cases - No preliminary arrangements made for delivery in hospital	Pre-Natal care in cases	Sepsis developing in antecedent care of midwife	Transfusions	Transfusions in Placenta Previa
# 1	1332	6 5	4.5	40 (Recovery-36) (Fatal - 4)	85 (6.3% of total)	323 (24%)	3 fatal	14	0
# 2	1105	5 1	4.5	22 (Recovery-20) (Fatal - 2)	64 (5.9% of total)	1041 (94%)	1 fatal	15	8
# 3	852	3 2	3.5	15 (Recovery-14) (Fatal - 1)	12 (1.4% of total)	840 (99%)	0	12	0
# 4	644	3 1	4.65	14 (Recovery-14) (Fatal - 0)	55 (8.33% of total)	631 (98%)	0	15	2
# 5	317	0 0	0	2 (Recovery-2) (Fatal - 0)	0	300 (95%)	0	3	2
# 6	267	0 0	0	3 (Recovery-3) (Fatal - 0)	20 (7.7% of total)	35 (13.1%)	0	6	2
<p>Expectant mothers cared for at pre-natal clinics (Corona - Jamaica- 1929 1930 2 other deaths in private hospitals and 2 in Queens mothers dying in the Boro of Manhattan.</p> <p>Gross Total percent of general hospital cases receiving pre-natal care ---70%</p>									

eral to embrace complete pelvimetry measurements. We have no reliable index at present upon the prenatal care of private physicians, and home delivery cases.

Our two Department of Health Prenatal Queens Clinics cared for 807 expectant mothers during 1930. *Eclampsia*

Eclampsia and its allied states, embracing heart, embolism, and nephritis cases as primary causes of death, showed 10 fatalities in home cases and 31 in hospital cases of the 64 maternal deaths in the *uncorrected figures** of the Borough of Queens. There were 11 other such causes in the 33 remaining cases of our 97 deaths in the *corrected figures***—these 11 ascribed to puerperal albuminuria alone.

We are entitled to wonder whether our knowledge is sufficiently fixed, satisfying and determined; whether our patients are sufficiently obedient and cooperative; whether the pace of living is showing its quota in the problem, even though we are dealing with the youthful periods of life.

The conclusion is inescapable that pregnancy does disturb seriously the circulatory, excretory, and uropoietic functions, resulting in much toxemia, and augmenting latent lesions of heart and kidneys. Also, that labor is a serious tax upon a diseased or dilated heart, if we

partum examinations, and her freedom from pus atmospheres which surround at times the general practitioners engaged in minor surgery, are responsible for her comparative freedom from sepsis?

Transfusion

Transfusion is a somewhat recent procedure brought into the art of obstetrics. No quarrel can be had with its performance when indications are apparent. It is a very worth-while measure when hemoglobin deficiency indicates its imperative need.

The general hospitals have been recognizing its importance and efficacy and have been performing it with the relative frequency of 1 to 43 deliveries, 1 in 53, 1 in 71, 1 in 90, and 1 in 106 deliveries.

In all, it has been employed 65 times in 1930 in Queens general hospital deliveries—a general average of 1 in 70 cases.

In half of one of these groupings (8 cases) the transfusions were performed to combat the results of hemorrhage from placenta previa. Its preliminary performance, before hemorrhage attendant upon attempts at delivery has supervened, has been pleaded for, and performed with stated good results.

Conclusions and Recommendations

It is obviously fruitless to discuss our ill fortune without offering to evolve some constructive thought or recommendation bearing upon the possibilities of bettering it.

(Concluded on page 209)

* Uncorrected Queens figures are actual births occurring in the Borough.

** Corrected Queens figures are children born of Queens mothers without reference to the Borough in which delivered.

The Baneful Psalm of Moses

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This article is in no sense a theological thesis. Its purpose is to show that a single verse in the Bible has had a most vicious influence upon the health and welfare of a large part of humanity, and how this influence may be counteracted. The 90th psalm in the Book of Psalms is the only one ascribed to Moses. The tenth verse of this psalm contains the well known words "the days of our years are threescore years and ten." No more pernicious sentence than this appears in literature and no tenet in theology, Christian or pagan, has had a more baneful influence upon humanity. Were it my desire to open a theological discussion I could point out the 6th Chapter, 3rd verse of Genesis, in which the "Lord said my spirit shall not always strive with man, for that he is also flesh: yet his days shall be an hundred and twenty years." The quotation from Genesis is an expression of the Lord, about the time of the deluge, while the psalm is part of a prayer of Moses supposed to have been written about 1100 years later. Although Moses himself reached the age of 120 and many of the earlier and some of the later biblical characters approached or exceeded that age, the psalmist's threescore years and ten have been universally accepted as the normal duration of life.

From a purely physiological standpoint the normal duration of life far exceeds the psalmist's 70 years. I have pointed out on several occasions that the normal cycle of life consists of three periods: development, maturity and decline, each lasting about thirty years and each broken about the middle by a climacteric or critical period. It is generally assumed that development ceases when growth in height ceases, about the twenty-first year. Growth in height ceases about that year because in the erect position assumed by human beings the spinal column is compressed and, as the intervertebral discs are uneven in thickness, the spinal column is forced into curves. In infancy the spinal column is nearly straight. Curving begins when the infant's body assumes an erect position in sitting or standing and by the end of the second decade of life the spinal curves overcome the increase in height occasioned by spinal growth. If we were quadrupeds we would continue to grow in length until about the thirtieth year, when the organs and tis-

ues have reached their maximum normal growth. That bone growth continues until about the thirtieth year is evident from the fact that we need a larger hat, a larger coat, larger gloves and shoes at thirty than at twenty, but there is no increase after the thirtieth year. The bony chest expands until the thirtieth year and the lungs continue to grow until the growth of the retaining wall ceases; so, too, does the brain continue to grow until the skull has reached its maximum size. The heart reaches its maximum normal size about the same time. The metabolic changes have been very active until that time, repair material being formed more rapidly and in larger quantity than the waste which necessitates repair. This anabolic or repair excess gradually diminishes until about the thirtieth year when catabolism, the waste process, and anabolism, the repair process, counterbalance each other and the period of maturity or stable metabolism begins. The developmental period is broken about the middle by puberty. The period of maturity or stable metabolism lasts or should last about 30 years and is broken about the middle by the menopause in the female and the male climacteric in the male. During maturity the metabolic processes, waste and repair, counterbalance each other until the critical period. After the menopause and male climacteric a change in the character and a diminution in quantity of the internal secretions of the gonads is probably responsible for a change in the character of the anabolic process. In some instances tissues of a lower nature are formed to replace waste; for example, in some localities fat is formed to repair muscle waste, cartilage waste in the xyphoid appendix is replaced by bone cells, and in glandular structures generally connective tissue replaces gland cells. While this vicarious repair is really an aging process it does not impair the interaction of functions until about the sixtieth year. From this time onward there is a more rapid increase in waste, the anabolic processes are less active and more abnormal repair material is produced, the blood is vitiated, normal functions of earlier life are diminished and the harmonious interaction of functions is impaired. I shall not repeat here the anatomical and physiological changes in organs and their functions as a result of impaired nutrition from vitiated blood

(Concluded from page 208)

To this end, we believe that some values might be worked out through a keener appreciation of the possibilities, and a broader scope given to the service of maternity centres.

(1) Maternity Centres

They should be made the clearing house of the expectant mother. If it could be made possible, midwives should report their expected deliveries to maternity centres and make requisition for sterile outfits to be supplied to the home of the expectant mother—their durable parts to be collected after delivery, returned, and re-sterilized.

(2) Physicians to be urged to do likewise for poor patients.

(3) Life insurance nurses, when invited to give prenatal advice or care, to list names, on consent, with ma-

ternity centres, so that homes or patients might be properly outfitted for deliveries.

(4) Urge that all agencies coming in contact with expectant mothers emphasize the importance of prenatal advice and control.

(5) Enforce notification by midwife and physician where the former calls the latter into the case of a maternity case.

(6) Have puerperal septicemia death certificates indicate whether case has been under the antecedent care of a midwife.

(7) Have educators preach the value of caution, patience, and conservatism without, at any time, losing sight of the equal or superior value, in the particular instance, of skilful help and scientific interference, to bring delayed or unpromising labor to a speedy, successful, and safe termination.

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in old age. The changes are found in all the organs and tissues of the body and although we apply to the altered senile organs names indicative of pathological conditions, such as chronic myocarditis, chronic interstitial nephritis, arteriosclerosis, etc., these conditions are natural and normal, in a sense, in the period of decline. Barring interruptions by more definite disease, this period should last as long as the preceding periods and in persons who pass through the normal cycle there is a distinct critical phase called the senile climacteric, about the 75th year. There are, however, innumerable causes for hastening the three periods and shortening life. The inroads of earlier disease may determine foci for the more rapid degeneration of organs or tissues. The mode of life may cause a more rapid degeneration in an organ or a more rapid disturbance in the harmonious interaction of functions. In the absence of causes producing more rapid degeneration of an organ or tissue and causes that interrupt normal functions, the duration of the last period should be thirty years and of the three periods about 90 years. Changes occurring in these periods may proceed more slowly and the individual may live longer than the normal duration of life. Heredity plays some part in prolongation of the normal cycle, for we find in the vast majority of persons who reach old age that there have been long-lived ancestors.

So strongly has the Biblical threescore years and ten been impressed upon most people that they look upon 70 years as the normal limit of life and anything beyond that is a special gift of God. When they reach the age of 60 they begin to think of death and the nearer they approach the supposed limit the more powerfully are they dominated by the thought that their span of life must soon end. They recognize the inevitability of death and submit in a sullen resignation to the fast approaching tragedy. They may argue with themselves that it is futile to make efforts to prolong life, and adopt a philosophical attitude, or they may be imbued with a strong religious feeling that makes death less repugnant, but there is still the instinct of self preservation, the desire to live. Yet they believe that their lease upon life expires with the 70th year and as they approach that year they become depressed, and lose hope, ambition and energy. In intimate conversation with many persons in the seventh decade of life I have been able to elicit such sentiments in almost every one. A few more intelligent persons who could throw off this fear of death at 70, when they came to realize that 90 years and not 70 years was the normal duration of life, regained hope and ambition. In my own case, coming from a long-lived family and believing in my theory that, barring accident, I should live 25 years longer, I have made plans for work that will take 15 to 20 years to complete.

If we could instil in the public the belief that 90 years is the normal duration of life, and convince people that the psalmist's threescore years and ten is a figure of speech without a scientific basis, we might be able to restore hope and ambition in many who approach the 70th year with fear and despondency. This despondency produces apathy with lack of energy and an unwillingness to engage in physical activity. We see this condition in our homes for the aged where many inmates sit, hour by hour and day by day, brooding and apathetic. They have nothing to look forward to but fast approaching death. In one large home it has been possible to arouse ambition and physical energy by offering material advantages to those who will exert themselves and keep their minds active by work. But I feel that much more could be accomplished if we could dispel the fear of rapidly approaching death by showing that instead of a few years to the 70th year, they had the prospect of twenty

or twenty-five years of life before them. We should encourage the belief that the 8th and 9th decades are still years of fruitfulness and usefulness, not a special dispensation of Providence, to be wasted in gloomy forebodings and inertia. Show our ministers of the Gospel, who have such a powerful influence upon the minds of children and their susceptible parents, that the 6th chapter, 3rd verse of Genesis is much nearer scientific truth than the 90th psalm, and let them spread the gospel of a life of 90 or 95 years or more instead of a life of 70 years or less.

It is probable that if persons knew that barring accident and disease their chances of reaching the age of ninety years, the completion of the normal duration of life, are as good as their present chances of reaching 70, their supposed age limit, they would not struggle so frantically in the sixth and seventh decades to achieve a success in a few years and hasten thereby the mental and physical senile changes which lead to physiological death. Many cases of death in the latter part of the seventh and beginning of the eighth decades can be traced to such hastened senile changes. It is safe to say that in many of these cases, if they had not put faith in that pernicious bugbear, the Psalm of Moses, they would not have exerted themselves physically and mentally until under the strain of work and the depression of fear they broke down and became mental and physical wrecks and died many years before their allotted time.

Discussion on Dr. Renaud's Paper

(From page 206)

Discussion

DR. ROBERT F. BARBER: "It is interesting to note that in the English literature on the same subject they report a mortality of 9 per cent. from operation, so that their mortality is higher than ours in the same type of disease. I just happen to remember those figures. I came across them in connection with something else that I was looking up at the time. In hemolytic jaundice the reports of the standard English authors are approximately 9 per cent. rather than the lower figures given tonight. I think perhaps some of their figures are based upon scattered cases throughout the British Empire rather than a series like we have from the Mayo Clinic."

Role of Positive Wassermann Reaction in Gynecologic Surgery

Among 2,622 admissions to a gynecologic service analyzed by Lewis C. Scheffey, Philadelphia (*Journal A. M. A.*, Jan. 24, 1931), routine Wassermann tests were positive in 194 cases, an incidence of 7.6 per cent; 1,064 cases were operative, with positive Wassermann reactions in 92 cases, an incidence of 8.6 per cent. Scheffey concludes that the patient with syphilis is not a greater risk merely because of the syphilitic infection. It is the amount of damage to the organism as a whole that is the vital factor concerned in evaluating that risk. Furthermore, diagnostic errors can be avoided by thinking of syphilis in the light of its widespread manifestations. Preoperative complications, especially of the cardiovascular and nervous systems, are more likely to be present in patients exhibiting positive Wassermann reactions. Preoperative hospital days in this series, while of longer duration in the positive Wassermann group and especially in the cases treated before operation, were dependent on underlying toxic or anemic conditions and were not prolonged by reason of antisyphilitic treatment. From 40 to 45 per cent of patients having preoperative complications developed some sort of postoperative difficulty, either incisional or systemic. This was true of both groups and would indicate that the predisposition exists equally, whether the preoperative disturbances are dependent on syphilis or on other etiologic factors. Patients with negative Wassermann reactions exhibited a higher degree of fertility. Abortions, premature labors and stillbirths (after the fourth month) were more pronounced in the positive Wassermann group. Systemic postoperative complications with recovery were of the same number and variety in both groups. The mortality appears definitely higher in the positive Wassermann group, and proportionately higher in the treated cases.

The General Practitioner and Economics

MALFORD W. THEWLIS, M.D.

New York, N. Y.

That the economic situation has affected the physician cannot be doubted. He is the last one to be paid and during this financial depression, when drastic cuts are made in family budgets, the cost of illness is lowered if at all possible. The wave of economy is contagious and patients have found that it is swank to be thrifty. In many instances it is necessary; in others it is not.

So much is being written about economics by physicians that in all probability the situation is more acute than one realizes. Many have been forced to delve into their principals. Others have been barely able to make expenses meet.

We read of committee investigations about the excessive cost of illness. Efforts are on foot to head us toward state medicine. Pay clinics and group practice have reduced the general practitioner's income.

The increased cost of illness is principally due to hospitalization and unnecessary laboratory tests.

It is not the physician's fees which form the bulk of the expense. Hospitalization is an expensive procedure. The physician's fees are only a small part of the cost of illness in the average case.

If the general practitioner were properly equipped he could take care of the average patient without hospitalization. The hospital is undoubtedly the greatest of modern institutions. But is it necessary to rush every patient to a hospital for observation? With proper equipment, a basal metabolism apparatus, fluoroscope and laboratory equipment sufficient for the more important urine and blood tests, the average patient could be taken care of.

The earth is rolling on but many physicians are at a standstill. To stand still is to be left behind. Too many physicians do not study enough and do not keep their office equipment up to date. These are the men who graduate from medical school and then cease to study, read one or two medical journals, attend a few medical meetings, and let it go at that. As far as they are concerned exhaustive study ends upon graduation.

The successful physician of 1931 is working harder than he ever did before. He has to because the standards have been raised. Increased study means increased confidence in oneself. An up-to-date library is a necessity and at the end of the day a study of all cases is in order. This all leads to more enthusiasm and enthusiasm is contagious and increases one's practice.

Upon inspection of many physicians' offices it is not difficult to see that many men are in a rut. Just as automobile manufacturers change their models, physicians should change their office equipment—new apparatus is better than old. Patients like to see that we are progressing and don't forget that Americans love new things. Such a simple gadget as a new blood-pressure apparatus is immediately noticed by the patient.

The day of the physician practicing without adequate equipment has passed; he is like the magician who works slowly, and can no longer get a booking. To hold a 1931 audience, a man must be geared up. And to hold his practice and expand it the 1931 physician has to be geared high.

Patients want *swift* action; rapidity in necessary tests, a diagnosis promptly established and proper treatment

instituted. The day of slow motion, of pulse taking and tongue gazing has passed.

The physician who sits in his office with only a case full of books to back him up is rather apt to sit there from now on.

A patient appears for diagnosis. He expects swift, accurate action. He has no time to waste, he has no money to squander on false moves. He wants all the tests made which are necessary and all non-essential tests eliminated.

This means a careful history taking, a thorough physical examination, a fluoroscopic examination, perhaps roentgenographic examination, urine and blood tests, blood chemistry, search for hidden foci of infection, etc. If the physician equips himself for making a proper examination, the kind that patients have a right to expect in 1931 (and not the type deemed sufficient in 1900), his practice will increase materially.

Medicine is advancing at a rapid pace, and it is difficult for the physician to keep up with it. Those who are not keeping pace are the ones who are finding life rather difficult at this time. Even the most enthusiastic and well equipped men feel the depression keenly but they are working twice as hard as they ever did before. And, incidentally, they work twice as hard to collect what is due them.

There is nothing wrong with practice but one has to work twice as hard as formerly.

Physicians' investments have suffered, as have those of everyone else. Patients' incomes having suffered to the same extent, the time has come for everyone to search for the necessities of life at the lowest cost. Patients expect, more than ever before, full value for every dollar paid out to a physician, and, as medicine is not an exact science, it is not possible to speak of values in medicine as in other professions.

Suffice it to say, that patients want the most they can get in exchange for the fees paid, and the bulk of practice is going to the physician who does the right kind of work.

The cost of illness must be lowered in accordance with the trend of commodity prices and reduced incomes. Most physicians will have to be content with reduced incomes until conditions change.

There are many ways of reducing the cost of illness. Hospitals, even with high rates, are fighting for existence. Physicians are fighting to keep these institutions going by "feeding in" as many cases as they possibly can. Hospital routine often keeps a patient under observation for a week to complete tests which could easily be done in a day if institutional red-tape could be eliminated. The hospital routine is often to do one test a day until the examination has been completed. A great deal of this work could be done in a physician's office if he were properly equipped and if he would take the time to study the necessary procedures to accomplish it.

In hospitals it is natural that emergency cases and serious illnesses should be cared for first. As a result, the patient who is not very ill is forced to wait for his tests to be made. This costs the patient a good deal in the long run. A great part of the general practitioner's

(Concluded on page 215)

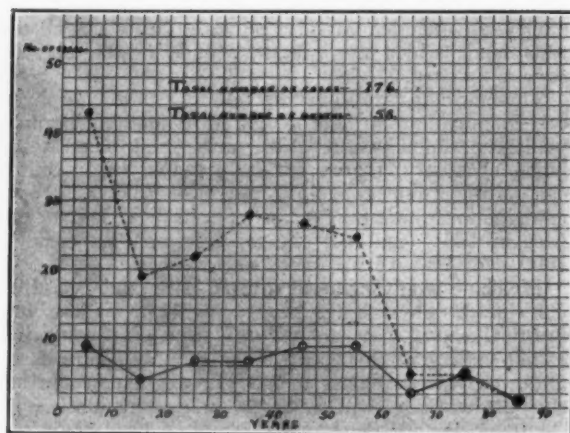
Complications and Sequelae of Traumatic Cerebrospinal Fluid Leaks from the Ear*

JEFFERSON BROWDER, M.D.
Brooklyn, N. Y.

During the past thirty years we have witnessed the development of the machine era which has taken a heavy toll of human life. Last year close to 30,000 deaths were attributable to the automobile alone, and of these about 35 per cent died as the result of injury to the

following the accident. To discuss all of these types would embrace the entire subject of brain injury, which obviously cannot be done in my allotted time.

Before speaking of the significance of the fluid discharge itself and the complications arising from the break in continuity of the normal structures within the petrous part of the temporal bone, it may be well to enumerate the important parts frequently involved, namely, the tympanic membrane, the middle ear, the inner ear, the mastoid cells, the facial nerve with the chorda tympani, the auditory nerve and the dural covering of the temporal bone. That one or all of these structures may be involved by a hemorrhagic lesion or hemorrhage with secondary infection has probably been observed by all of us, but the importance of such a lesion



No. 1. A graphic representation of the mortality by decades.

central nervous system. Hospitals throughout the country are admitting annually increasing numbers of patients who have been variously dubbed fractured skulls, brain injuries or head injuries. With this large amount of material for study it is evident that some attempt should be made to group the several clinical entities, for to call all these "fractured skulls" and to treat them alike is about as rational as to diagnose all intra-abdominal lesions as acute abdomen and apply the same treatment to each.

It is therefore my aim to present one phase of this subject, the basis of which will be the observations in 176 patients who had bloody fluid discharge from one or both ears for variable periods of time. The scope of this paper will not permit a discussion of the types of brain injury associated with this kind of compound fracture of the skull; suffice it to say that the condition is frequently accompanied by a serious brain injury, as evidenced by the fact that 58 of the 176 patients died. On

X-RAY EXAMINATIONS	
NUMBER OF CASES EXAMINED	102
WITH POSITIVE FINDINGS	65
NEGATIVE	37

No. 2. Chart showing the number of demonstrable fractures by X-ray examination.

the other hand, 23 of the 176 patients were never rendered unconscious by the injuring blow. One can see from this brief statement that there were all types of brain injury, from the mildest form of cerebral upset to the most serious, causing death within a short time

* Read before the Brooklyn Surgical Society, November 6, 1930.



No. 3. Ecchymosis behind the ear or the so-called "Battle's sign"—a frequent finding in fractures of the petrous part of the temporal bone.

is overshadowed in the average instance by the brain injury itself.

The so-called cerebro-spinal leak is usually quite evident upon admission, there being from a small amount to a profuse thin bloody discharge from the external auditory canal which may continue for a variable period of time, the longest in this series being eight days. That the drainage may reduce the subarachnoid pressure to zero can be demonstrated in some cases, whereas in others the spinal manometric reading will be well above the accepted normal. Then too, in some instances the drainage seems to aid in recovery, while more often the loss of spinal fluid and the reduction of cerebro-spinal fluid pressure has no effect whatsoever upon the mental state of the patient. Repeatedly it has been observed that the patient will remain in deep coma with slow

pulse and high blood pressure while the spinal or cisternal fluid pressure is well below the accepted normal. This is certainly good evidence that continuous cerebrospinal fluid drainage is of no value in most instances.

The mechanism of perforation of the ear drum offers an interesting speculation. It is probably due to sudden increased pressure from within since the frayed-out edges of the perforation are visible when examined with a magnifying otoscope. The perforated opening may be

from the fifth to ninth day following the accident; of the two cases noted immediately after the injury, one died on the fifth day while the other after two years shows no evidence of regeneration. In the second group there were eleven cases, all of which showed signs of paralysis on the second day which was complete by the third day. In none of these was there any evidence of infection. In the third group there were eight cases, all of which appeared after the fifth day and in each



Left Right
No. 4. X-ray showing the blood-filled mastoid cells on the left. Right for comparison shows well aerated cells.

in any quadrant but is usually found in the posterior superior quadrant. Provided infection does not complicate the course of events, the membrane heals with little evidence that any lesion had ever been present.

The middle ear does not heal so readily for one can demonstrate with the tuning fork disturbance of air conduction which may persist for months and often for years following the trauma. This degree of impairment of hearing is also variable, probably depending upon the amount of fibrosis altering the normal mobility of the ossicles. In case suppuration supervenes, which occurred 21 times in this series, grave possibilities arise. The mastoid cells, frequently clouded by a non-destructive process which can be demonstrated by the x-ray only, were involved by a suppurative lesion in two cases, one of which required mastoidectomy, whereas the other resolved without operative drainage.

With this suppurative process present in the middle ear and a communication with the subarachnoid space at least potentially present, one can appreciate the danger of extension with a resultant meningitis. Of these previously mentioned 21 cases of otitis media, eight developed the clinical signs of meningitis, five of which succumbed to the infection. Of these fatal cases, spinal fluid cultures in three showed streptococcus, one the pneumococcus and in one the organism was not recovered. The three cases that recovered had all the physical signs of meningitis with increase in the cells of the cerebrospinal fluid ranging from 400 to 3000, but bacteria were never grown upon repeated culture. These three cases, to be sure, were not meningitis in the true sense of the word, but they are included here because the author feels that they are representative of a group of cases reported in the literature as cures by early operation.

The next complication to be considered is paralysis of the face which may cause much concern because of the marked resultant disfigurement. There were 21 instances of this lesion, two present upon admission, eleven appeared before the third day and eight were noted

instance there was an associated purulent discharge from the ear. One can see that there were three distinct etiological factors; one, injury to the nerve at the time of fracture, the second probably edema following slight trauma of the nerve and the third edema accompanying the infection. In the second and third groups paralysis was gradual, the inability to wrinkle the forehead was the first sign noted, soon followed by paralysis of the orbicularis oculi muscle and within 48 hours the flaccidity of the entire face was complete. The earliest complete return of function was 20 days, the return being the reverse of the mode of onset, that is from below upward; in other words the muscles supplied by the upper branch of the facial nerve are the first to show evidence of paralysis and the last to recover.

In 16 of these 21 cases there was an associated chorda tympani lesion as evidenced by the loss of taste over the anterior two-thirds of the tongue on the side of the facial paralysis. In five patients that were observed for over a period of one year there was still impairment of the sense of taste which was not complete but very annoying due to the complaint of "sour taste in the mouth."

The last complication which will be discussed is by far the commonest of all complaints. This is termed complaint because it is entirely subjective, consequently shrouded with many theories as to its cause and treated by a like number of methods. Buzzing in the ear and

CRANIAL VII NERVE PARALYSIS	
TOTAL NUMBER OF CASES	21
RIGHT SIDE PARALYZED	10
LEFT	11
ONSET OF PARALYSIS	
AT TIME OF ACCIDENT	2
ON 2ND DAY	4
ON 3RD DAY	7
ON 5TH DAY	2
ON 7TH DAY	2
ON 9TH DAY	4
TOTAL	21

No. 5. Chart of the 21 cases of facial nerve involvement.

dizziness upon sudden change of position of the head is present in fully one-half of all patients who have sustained a fracture through the petrous part of the temporal bone. Complete nerve deafness, however, is rare. The buzzing noise may be likened to any note from that



No. 6. Complete right facial nerve involvement.
(a) Note the absence of the nasolabial fold, the mouth drawn to the left and the widening of the right palpebral fissure.
(b) Appearance when attempting to show teeth.
(c) Appearance when attempting to close the eye. Levator palpebrae muscle is relaxed and eye bulb rotated upward.

produced by a peanut roaster to the low-toned swish of the ocean. In some it is continuous, so annoying as to totally incapacitate them for any kind of mental activity, whereas in others it is only noted when they are at rest in a quiet room. At any rate the clinical and pathological evidence points toward a cochlear lesion, probably due to hemorrhage with subsequent connective tissue replacement and impaired circulation of blood in the organ of Corti.

Almost invariably the noise in the ear is accompanied by some degree of dizziness, often persistent except when at absolute rest and in other instances intermittent with exacerbation following any sudden change in posture of the head. In this condition, also, the evidence at hand points toward hemorrhage into the semicircular canals.

With this abbreviated presentation of the subject of aural cerebrospinal leak, I will attempt to outline what is considered the best form of treatment. There is present at all times in the external auditory canal the normal flora of cutaneous bacteria which may become patho-



No. 7. Beginning return of function of right facial nerve at three and one-half months.
(a) Attempted motion of right side of face. Note absence of action of right frontalis muscle. Remainder of muscles on right side show weak function.
(b) Appearance when showing teeth.
(c) At rest. Note that mouth is slightly pulled to the right by fibrosis of muscles of this side.

genic provided proper soil is at hand for their growth. By introducing examining instruments or irrigating solutions one can understand how microorganisms could be transferred to a more favorable culture medium, that

is, stagnant blood in the middle ear cavity. Therefore instead of trying to stop the flow of bloody fluid by packs, bandages, et cetera, the patient should be placed with the affected ear down to increase, if possible, the drainage. Theoretically, at least, cerebro-spinal fluid should not be withdrawn at another point, as by spinal puncture, because this will cause a temporary cessation of flow from the ear and probably allow some of the fluid which has reached the external auditory canal to run inward, thereby contaminating the subarachnoid space.

Once infection of the middle ear is evident, the drum should be opened widely and the auditory canal kept free of dried secretions, which may be obstructing proper drainage. In this connection may be mentioned the care of patients with active infection of the middle ear at the time of accident. It is difficult to say which is the best course to pursue but probably the drum should be incised widely and the canal kept open with cotton applicators, rather than the use of irrigating solutions.

The treatment of complicating mastoid infection is no



No. 8. Hemorrhage into the inner ear.

different from other cases of mastoiditis except that the suggestion be offered that the operator remove the bone with curette and rongeur rather than by hammer and gouge, thereby lessening the danger of re-opening the tract into the cranial cavity.

Concerning the treatment of meningitis, much could be said which may be summed up in a few words. In the first place, an ounce of prevention is worth a pound of cure. Adequate drainage of the middle ear fossa in all infected cases is absolutely essential, for to allow the pressure in the middle ear to rise above the subarachnoid pressure is courting danger. Once meningitis is well established I cannot see how one with an accurate knowledge of the pathology present could ever hope to influence the progress of the disease by operative procedures or by injection of serum into the subarachnoid space. The only possible hope to eradicate such a disease would be by blood-borne antiseptics, but to date no such therapy has been successful.

In the series of 21 cases with facial paralysis there was only one patient who showed complete absence of return of function at the end of one year. This should have been corrected by a hypoglossal-facial anastomosis at the end of nine months but operation was refused.



No. 9. To illustrate the type of protection used to prevent any external obstruction to the draining ear.

In the instances where the onset of the paralysis is gradual there is every reason to expect a fairly complete recovery by the sixth month, the average being about four months. Throughout the course of the paralysis the flaccid side of the face should be vigorously massaged twice a day in order to maintain the tone of the muscles. If this is not carefully done there will be a resultant muscular fibrosis with the mouth drawn to the affected side. Electrical stimulation may be applied but no definite beneficial results have been noted following its use.

The last complication to be considered, noises in the ear and dizziness, is the one with which I have had most experience and about which I know least. The average patient with injury to the head is not kept in bed for a long enough period of time and when allowed out of bed resumes physical activities much too soon. The best method to prevent these so-called inner ear complications is to keep the patients in bed for at least three weeks to a month and then very gradually get them up over a period of seven to ten days. Once this inner ear condition is well established, long periods of rest, absence of business worries, diathermy, middle ear inflations and the many other methods of treatment give equally poor results. The only form of therapy that I have ever seen give the least encouragement is large doses of thyroid extract with sedatives at night to insure sleep. This temporary alleviation of symptoms is probably due to an increase of circulation in the inner ear secondary to the tachycardia induced by the thyroid therapy. Obviously this treatment cannot be continued indefinitely.

In conclusion I wish to say that this subject has been presented to a group of general surgeons with some hesitancy; however, the problem is ours and we are responsible for the care of these patients. Invaluable aid is rendered by the otologist who is more familiar with the minute anatomy of the ear, but in the majority of instances, although important, this phase of the subject is only a part of the clinical picture. It is therefore essential that the surgeon know and evaluate each and every sign that may appear following an injury of the head.

96 Joralemon Street.

Discussion of Paper by Dr. Browder

DR. JEFFERSON BROWDER, closing discussion:

"In regard to Dr. Stone's first question, namely, the frequency of cerebrospinal leak: I purposely have excluded all cases that I did not think were real cerebrospinal fluid leaks. The percentage he gave, about one in four, of bleeding from the external auditory canal following trauma to the head, is about what we find, but I would say that probably two out of three of these are not true cerebrospinal fluid leaks. By that I mean definite cerebrospinal fluid draining from the ear canal.

"I have not made a great number of otoscopic examinations because it is bad practice to introduce examining instruments into an ear canal from which cerebrospinal fluid is draining, but the site of perforation in those that were examined was, in most instances, in the posterior superior quadrant.

"In regard to the question of tinnitus; I think this is relatively a late complaint, so unless the patients are followed for long periods one does not know their many difficulties.

"With reference to the cases of meningitis. I have never seen meningitis develop at a late date, that is, months afterwards, from a compound fracture of the skull involving the middle ear. This late complication is not at all uncommon in anterior fossa fractures where there is involvement of the accessory nasal sinuses. Also one sees abscess of the frontal lobe at a late date.

"As to keeping the patient in bed: Again we bring up the question of treating the fracture of the skull or the brain injury. There are many types of brain injury each of which is more or less a definite clinical entity and consequently has to be treated according to the indication of the particular case. In general it is best to keep a patient who has had a definite brain injury in bed for at least three weeks."

(Concluded from page 211)

work is made up of patients who do not require surgical procedures. It is the diagnosis of disease which confronts him and he is not able to make the proper examination unless he is equipped for it. It is because he is not equipped for it that patients are forced to go to pay clinics more than ever before. It is necessary to study the patient psychologically, help him, and find out what is expected of us. And if we do not do what is expected of us patients will go elsewhere.

Physicians are giving free services worth millions of dollars each year to hospitals and to dispensaries. Many of the patients concerned could be seen in our offices at reduced fees; others could not. While physicians will continue to give their services free to institutions, owing to present conditions they will be forced to devote more and more time to private practice.

The physician to-day is in a difficult position. He must "deliver the goods" and do it quickly. He can only do this by increasing his efficiency. He can only increase his efficiency by hard work, constant study and by increased interest in his work.

Many physicians, far in a rut after years of a retrograde process, must fall by the wayside. They will not make enough to meet current expenses in the future.

Laziness, however, is not confined to the "little fellow" in medicine. Sometimes the "big man," when he reaches the top, settles there. He is very apt to become a social light and live on his laurels. The man who arrives at the top of the ladder must work harder than he ever did before to remain there.

It is interesting to note the developments in medicine. It is high time for a personal inventory by all physicians. Are the patients receiving all they should? Most physicians who are working and studying, and who have spark and amperage to forge ahead, are holding their own during this financial crisis.

But spark is a gift of the gods. The world is in a whirl. Slow motion has gone forever. The physician must watch his step. We are going into a new era in medicine and science. When this crisis has ended, the world will probably progress at a still more rapid rate—more rapid than ever before. Patients will progress, disease will progress, too, but will the average physician progress?

Malpractice Insurance*

JOHN A. CARD, M.D.

Poughkeepsie, N. Y.

I DO not know whether or not you noticed it, but I became a little fidgety a while back and it was because Jim Sadlier was handling that gavel—that belongs to me—and I didn't know just what was going to happen. As long as he kept hold of the heavy end it was safe, but I didn't know at what minute he might throw it at somebody, and, again, I say that is my prerogative. I am a little sore also because your President gave up about half my time to Joe Lawrence. I have quite a lot of material in my case there that I expected to talk about on this question of malpractice insurance, but I think you have suffered long enough this evening, so I am going to detain you with only a very few remarks, and those are going to be rather pertinent.

This question of malpractice insurance, or insurance generally, is a tiresome one, and yet, after all, if you will stop and think you will appreciate the fact that the entire credit of our nation is based upon some form of insurance. Malpractice insurance is particularly distasteful to most of us because it is probably an insult to our ability, and yet we have it, and we have it increasingly each year. You may not know, but I do, as a member of the Insurance Committee of the Medical Society of the State of New York, that in the last 18 months 169 suits have been filed against members of this Society for malpractice. Now, that is a tremendously large number. Unfortunately, due to the crowded condition of your courts in this judicial district, it takes a long time before many of these suits are brought to trial. However, you have at the present time 65 suits listed as ready on the calendars of the courts in this district.

When I say that malpractice suits are increasing I say it advisedly. I realize fully that a great many of the claims that are filed against you are efforts at retaliation when you attempt to collect your legitimate accounts against some of your clientele. It is a very simple way to try to scare you out, for them at least, but it is not so good for you because it brings to you a notoriety and advertisement which I think none of us here are anxious to receive. Well, the State Society provided, nine years ago, a group insurance plan whereby you could be protected against inroads into your pocket-book by some of these juries who seem to have no regard whatsoever for a professional man's ability or reputation. We have offered the very best contract that is written today on malpractice insurance at the very lowest cost.

There is one company that does business, writes a policy and insures everything but your income, that has no standing in this state, and that company writes malpractice insurance at a rate less than what the group plan is, but I hold no brief for that organization because they do not and will not comply with the insurance laws of this state, and I, therefore, call them a bootleg company and pass them up as such. If you choose to insure with them, that is your business.

With over 2,000 members in the Kings County

Medical Society there are today insured under our group plan 1,215, or a little over 50 per cent. of the membership.

Now, some of you may say, "I don't need insurance, I don't do surgery, I don't do x-ray work, why should I need any malpractice insurance?" Let me tell you why you need malpractice insurance. You need malpractice insurance just as much as you need liability insurance on the automobile that you are driving. Just because you do not happen to do surgery or x-ray work or some of those things does not release you from liability of a suit for damages—breach of contract, which some of the companies have chosen to call it, where an anxious mother with her eyes full of tears says to you, "Doctor, will my baby get well?" and you say, "Don't worry, your baby will be all right," and you do it honestly for the psychological effect that it is going to have upon that mother, and when you do that you have made a contract with that mother to cure that child and if it does not get well, you may be sued for breach of contract which is covered under the group plan of insurance. Those of you who do obstetrics and who positively engage yourselves to attend a woman in her confinement had better be careful, for if perchance you have two cases come off at the same time or you happen to be off at a football game and that case comes off, the patient can sue you for breach of contract. If you are insured and the patient obtains a verdict the money stays in your pocket, but if you are not insured—and pretty nearly 1,000 of the members of this county society are not insured—it may come out of your pocket very much to the detriment of your wife's new winter outfit.

Now, the group plan of insurance as sponsored by the State Society, as I said a moment ago, is the cheapest that can be offered to you. Of all the companies writing insurance under this plan (malpractice insurance) there is one company that writes malpractice insurance at a figure less than what the group plan is charging you, for men in the rural communities, and for you people almost double the price. Needless to say, you don't want to have very much to do with that company, yet it is a good company, but it discriminates, because in this particular county in the last 18 months the number of suits for malpractice or claims that have been filed against you is equivalent to 1 in 13 members, according to your membership. In other words, 1 of you out of every 13, in the last 18 months, has had a claim filed against him for malpractice or breach of contract or something else.

Now, the group plan does this: it was a rather bold experiment in the beginning, but we finally persuaded this company (the Aetna) to take us on, and we insisted, first, that they only write insurance to members in good standing of the various component county societies; second, that all defense be handled by the counsel for the State Society, and I think that was probably as bold as anything we could have asked because it is very seldom that any insurance company doing business for a profit—and they are

(Concluded on page 221)

* Read before the Medical Society of the County of Kings, October 21, 1930.

Cultural Medicine

Embalming, and Its Medical and Legal Aspects*

Part II

JEROME ALEXANDER, M.Sc.
New York, N. Y.

(Continued from page 192, May, 1931 issue)

PHYSIOLOGICAL

Before considering the methods used by modern embalmers, it would be wise to consider, in a general way, some comparatively recent developments in our knowledge of the human organism and its behavior when death supervenes.

From the work on bacteriophage and the ultrafiltrable viruses, it would seem that there is a whole world of ultramicroscopic living things.** In such simple beings and, in fact, in monocellular organisms, the biont (living plant or animal) is so tiny, that practically all parts of it are in contact with the medium in which it lives. Even in monocellular beings, the structure proves to be far more complicated than has been suspected. But the higher forms of plants and animals show a remarkable development of specialized and inter-related parts. Thus the roots of a tree supply food and moisture, the wood furnishes support, the inside bark carries the juices, and the leaves, under the influence of sunlight, act as lungs for the interchange and transformation of gases.

In man, and indeed in all the higher animals, the system is much more complex than in plants. Each of the organs in the system, while performing its own peculiar functions, is vitally dependent on the others, so that the organism, or body as a whole, may function and live. The failure of any essential part is followed by the prompt collapse of the whole.

The microscopic cells composing the various organs and tissues of the body differ very greatly in function, shape, and composition; but they all contain, to a large extent, "protoplasm" and its transformation products.

Protoplasm is a viscid jelly-like mixture of substances surrounding tiny bodies called chromosomes in which exist a nematoc or string-like group of still more tiny units known as "genes" which constitute the basic living portions of every cell.

During life, the protoplasm of the body appears to be in the state of a thick viscid liquid; this resembles a thick solution of warm glue or gelatin, and is known as the sol state. Upon death, it soon undergoes a coagulation, loses its fluidity, and becomes gelatinous like a cold solution of glue or gelatin. This condition is called the gel state.†

TURGOR OR SWELLING

Without entering here into a discussion as to what occurs in detail in each cell, but considering the behavior of the tissues as a whole, we find that every tissue in the healthy normal body holds a certain percentage of water characteristic of that tissue. That is, each tissue has a certain normal degree of turgidity or swelling, which is,

however, greatly influenced by the presence of acid, alkali or salts. In fact, the colloidal and glue-like substances constituting the cells and tissues are so sensitive to slight changes in acidity that only the most refined tests will indicate such changes as well as do the cellular colloids.

To illustrate this, allow some gelatin to soak in distilled water, in slightly acid water, in slightly alkaline water, and in the same acid water containing ordinary salt. The gelatin swells least in pure water; salt has the power to depress the swelling due to acid. By "stinging" the swollen gelatin with a needle dipped in acid, still more swollen "bites" appear.

NORMAL REACTION

Under normal conditions, the body tissues have an alkalinity of approximately pH: 7.45, which is about 3,000 times less than that of a $\frac{N}{1000}$ solution of sodium hy-

drate. How slight this alkalinity is may be judged by the fact that ordinary distilled water (pH about 5.5) is, roughly, 50 times as far removed towards the acid side from the point of absolute neutrality, because it has taken up a small amount of carbonic acid gas from the air.

FUNCTION OF THE BLOOD

As the tissues are constantly producing carbonic acid, there must be some means of removing it promptly and continuously, for the most minute changes in the reaction of the tissues would lead to illness or death. The blood is, so to say, the broom which has this task of continuously sweeping out the carbonic acid and bringing in the oxygen to feed the fires of life. The phosphates and bi-carbonates act as buffers which tend to stabilize the reaction of the blood.

CAPILLARY CIRCULATION

There is no need to review the general circulation of the blood through arteries and veins; you are all familiar with this. I wish, however, to consider in some detail the capillary circulation, whose mechanism has only recently been revealed by the studies of Prof. August Krogh and his collaborators.

KROGH'S DISCOVERIES

Text books of anatomy and physiology have made only rudimentary reference to the capillaries, and we were led to believe that they are very tiny tubes through which flows a continuous current of blood. Such is not the case. The capillaries may be likened to railroad sidings or loops, connected at both ends with main lines of the circulation, but opening and closing intermittently to admit a long train of erythrocytes containing oxygen, and then closing again until the red cars have discharged their loads of oxygen and have been reloaded with carbon dioxide.

*Read before the Society of Medical Jurisprudence, at the New York Academy of Medicine, May 12, 1930.

**See paper by Alexander and Bridges entitled: "Some Physical and Chemical Aspects of Life, Mutation and Evolution" in Vol. 2 of Alexander's Colloid Chemistry, Theoretical and Applied, Chemical Catalogue Co. 1928.

†Actually, during life, the viscosity of protoplasm varies considerably.

ROUGET CELLS

The opening and closing of the capillaries is controlled by special cells, which surround the capillary tube with armlike projections and are called by Krogh "Rouget Cells" in honor of their original discoverer. When the oxygen brought in by one train of blood corpuscles is used up, and a certain minute change in reaction occurs, indicating the demand of the tissues for more oxygen, the Rouget cells relax, the capillary opens, and the arterial pressure drives out the old train and supplies a temporary stream of blood; whereupon the Rouget cells once more contract and hold anew another train of red blood corpuscles.

EFFECTS OF STIMULATION

Nervous stimulation, which may be produced by chemical substances (e.g. adrenaline) or by mechanical force (e.g. scratching or rubbing), has also a great effect on the capillaries; so also has exercise. Regarding his microscopic examination of a frog's tongue, Krogh says (p. 44.):

"If the surface of the tongue is now very lightly scratched with a hair or a fine glass needle along a small vein (Fig. 1) a reaction can be obtained like that shown in Fig. 1². A small branch opens up and is filled with blood which becomes stagnant. By continuing the stimulus in front of the column of stagnant blood the relaxation is carried further (Fig. 1³), the blood flows slowly on in the direction from the vein and at last connection is established with an arteriole, resulting, of course, in a sudden onset of current in the opposite direction, towards the vein."

SIZE AND NUMBER OF CAPILLARIES

Some idea of the size and great number of the capillaries and the influence of exercise upon them is shown by the fact that in one of the stimulated leg muscles



Fig. Opening up of a capillary by repeated weak stimulation

(extensor tarsi) of a guinea pig, Krogh counted 195 capillaries per sq. mm., while the corresponding unstimulated muscle has less than 5, so few that an accurate count could not be made.

A figure in Krogh's book (p. 41) gives magnified sections from three muscles, exhibiting 200, 700 and 2500 capillaries per sq. mm. (On the scale in microns given for comparison, $1\mu = \frac{1}{1,000}$ mm. = $\frac{1}{25,000}$ of an inch.) As the figure shows, the capillaries in the active muscle are not only more numerous but of greater diameter.

The red blood corpuscles of a guinea pig are about 7.2μ in diameter and 2μ thick and they can pass through capillaries only by being squeezed out of shape. Human red blood cells average about 7.5μ in diameter and 1.8μ thick.

BEHAVIOR OF THE CAPILLARIES ON DEATH

As yet, nothing is known positively of the behavior of

the capillaries after death. In a private communication, Prof. Krogh informed me that as a general rule capillaries, at least those in the skin, close after death; but there are exceptions and they may open again. Probably upon the development of post-mortem acidity, which occurs promptly, the Rouget cells contract and close the capillaries; and one of the embalmer's problems is to find out how to control this condition to be sure of a proper distribution of embalming fluid; for no mere pressure the embalmer can produce will avail against contracted and plugged capillaries. In support of these views I may quote what Krogh states (p. 45):

"When muscles, especially those of mammals and fishes, are artificially injected in the fresh state, it is found to be very difficult to obtain a complete injection, and microscopic examination of some of the injected specimens has revealed the fact that of the number of capillaries supplied by the same arteriole, a minority only have become injected in spite of the high pressure employed. Accurate measurements of the relations between the caliber of capillaries and the pressure to which they are exposed are very desirable, but have not been made so far."

CAPILLARIES AND THE DIFFUSION CONSTANT

The zone of tissues supplied by each capillary is regulated by the speed with which oxygen can diffuse outward from the capillary, for the carbonic acid gas diffuses inward with much greater rapidity—about 30 times as fast. Applying the name "diffusion constant" to the number of cc. of gas that will in one minute diffuse through the distance of 1μ (0.001 mm.) over an area of one sq. cm. when the concentration difference corresponds to an oxygen pressure of one atmosphere, Krogh reports the following diffusion constants for oxygen at 20 deg. Cent.:

In water	0.34	(Hufner)
Gelatin (1.5%)	0.28	
Muscle	0.14	
Connective Tissue	0.115	
Chitin	0.013	
India Rubber	0.077	

Animal tissues then offer over twice the resistance to the passage of oxygen molecules as does water or 1.5% gelatin. It is interesting to note that the diffusivity constant of animal tissues increases 1% per degree between 0° C. and 40° C., taking 20° C. as unity.

DIFFUSION OF DISSOLVED SUBSTANCES THROUGH CAPILLARIES

The embalmer is vitally concerned with the velocity or speed with which the components of embalming fluid diffuse through the capillary walls for distribution in the surrounding tissue; but most of the many experiments reported have been done with living tissues. Much work is needed along this line, and I will not now burden you with a discussion of osmotic pressure, differential diffusion, selective absorption, and other matters of this kind, which await future work. To use the words of the experienced, and therefore cautious, Prof. Krogh: "The problems of physiology are so complicated, that, to put it tersely, one cannot expect to be able to reason correctly from the facts, for more than five minutes at a stretch."

I may say, however, that there is normally in life a balance between the capillary blood pressure and the rapidity of the circulation, and the distribution of crystalloidal and diffusible colloidal substance between blood and tissue. A disturbance of the balance results in edema. According to Schade,* along part of the capillary tube the pulsating arterial pressure ultra-filters part of

* Alexander's Colloid Chemistry, Theoretical and Applied, Vol. II.

the serum outward; at another part, a portion of the ultrafiltrate is selectively reabsorbed. The differential amount remains in the tissues. One type of edema results if this differential amount left in the tissue is above normal.

CONTROL OF CAPILLARY PRESSURE

Apart from the viscosity of the blood, the impulse of the heart, and the elasticity of the arteries, two factors are important in controlling the capillary pressure. The first factor is an increase in resistance to the venous flow, due to the fact that if the blood tends to drain out of a vein (e. g., as when the hands are raised above the head), the vein collapses and the resulting increase in friction opposes the draining off of the blood. The second factor is muscular activity, which causes the veins to act like a pump and force the blood along toward the heart.

THE VENOUS PUMP

To understand the action of the venous pump, we must remember that the veins are well supplied with valves which, during life, tend to prevent the blood from "backing up." Therefore when the soft veins are compressed by voluntary or involuntary muscular contraction, the blood is forced toward the heart. This simple mechanism explains the beneficial effect of massage during life, and its great value to the embalmer after death. It explains why gravitation does not make the blood accumulate in the lower ends of the limbs during exercise, although it tends to do so in a person standing perfectly still. In walking, the pressure in the veins of the foot is reduced almost to zero; and the swelling of the veins in the hand when it is allowed to hang limply by the side is quickly reduced by opening and closing the fist a few times.

THE BLOOD CURRENT

The small arteries, and particularly the arterioles, are normally very narrow when compared with the capillary network they supply. The internal diameter of arterioles seldom exceeds twice that of a normal open capillary. The arterial current is therefore extremely rapid compared with the capillary blood stream, but the difference between capillaries and venules is less pronounced, though the blood speeds up a little in the veins.

"The picture of the whole system," says Krogh, "differs in a very significant way from that presented by an injection preparation. One is often reminded of a relatively broad stream (running at first in a number of separate channels) supplied by a system of pipes—the arteries—and it is impossible to doubt that the main resistance to be overcome lies in the arterioles where, therefore, the main fall in pressure must take place, while comparatively insignificant pressure differences must suffice for the current through capillaries and veins."

HORMONAL CONTROL OF CAPILLARIES

A hormone is a glandular secretion that possesses an activating or exciting function; and Prof. Krogh and his co-workers have produced convincing evidence to show that the posterior portion of the pituitary gland produces a hormone which exercises a powerful control over the capillaries, keeping them in a certain condition of partial contraction or "tone." Pohle had found (1920) that the removal of the pituitary gland of frogs was followed by cutaneous edema. Rehlberg, Krogh's assistant, removed the pituitary gland of a frog, and found that a few hours thereafter the capillaries began to dilate, while edema developed. After a week or two, the capillaries recovered their ability to contract, but remained in a very unstable

state, changing abruptly from great contraction to extreme dilation. Pituitary extracts produced prompt capillary contraction.

Note Krogh's cautious statement:

"I think, therefore, that it is possible to assert with about as much confidence as one can have in experimental science, where the pitfalls are numerous, and often extremely well concealed, that a hormone, produced by the pituitary gland and acting on the contractile element of the frog's cutaneous capillaries and on the melanophores* of the frog's skin, is normally present in mammalian blood. The concentration of the active substance itself in the blood is, therefore, of the order of one part in a hundred million, but it may very well be much lower. With regard to the normal function of this substance in the body, say of man, we are still profoundly ignorant, and I would warn emphatically against drawing any hasty conclusions. Capillaries in different animals and in different organs differ a great deal too much for any conclusion, by analogy, to be at all safe. Even in the frog, there are very noticeable differences between the susceptibility of different capillaries to pituitrine."

A few years ago, at a meeting of the American Chemical Society of Washington, D. C., Professor John Abel, of Baltimore, reported having purified the posterior pituitary hormone to such an extent that the purified product was effective in one part in eighteen billion seven hundred and fifty million. This material is believed to be histamine.

I might here mention a matter of great importance, namely, the consequences due to extensive burns, which need not be especially severe as burns, but which, if they effect about one-third of the body area, cause such a loss of liquid into the capillaries that the blood remaining in the circulation becomes so viscous that death will follow unless an intensive hydrotherapy is promptly applied.**

Underhill states that the treatment consists in forcing the fluids; water by mouth, when possible, or when the patient can not cooperate because of unconsciousness, fluid may be injected under the skin, directly into the blood, by the rectum, etc. The quantity of fluid taken in may be from four to eight liters daily.

The sudden opening of too many capillaries may cause death, the person practically bleeding to death into his own tissues.

DISEASE

Whole libraries have been written about the effects of numerous diseases on the organism. I intend to refer in a most general and rudimentary way to only a few of these effects.

Bacteria or serum flocculates may actually clog up fine capillaries, thus cutting off the supply of blood to the part affected, which may then undergo a slow degeneration or decay. Syphilitic softening of the brain seems to be of this nature.

Obstruction to the circulation generally results in what is commonly called "acidosis," although it would be more correct to call it a "sub-alkalinization" as Fodor suggests, for the tissues do not actually become acid during life. Swelling of tissues may compress the circulating vessels and thus create a vicious circle, especially in the case of organs like the eye and the kidney, which are surrounded by inelastic capsules. Glaucoma seems to be a condition of this type.

Then the bacteria themselves may be poisonous, or

* Melanophores are large cells filled with dark pigment.

** See Dr. Frank P. Underhill—"Changes in Blood Concentration and Their Significance in the Treatment of Cases of Extensive Superficial Burns," in Alexander's Colloid Chemistry, Vol. II, p. 323.

they may form poisons of high potency, which may directly upset the balanced distribution of fluid in the organism, or may act indirectly through the nervous or circulatory systems.

Da Costa* reports the following effect of disease on the speed of coagulation of the blood in man:

Normal—becomes apparent within 2 or 3 minutes after exposure of the blood to air, and is completed in 7 or 8 minutes.

Abscess—somewhat slower.

Acromegaly—normal.

Carcinoma—normal, unless ulcerative; then it is rapid.

Chlorosis—very rapid.

Gall-stones—rapid if ulcerative; otherwise normal.

Fever—delayed at first, then rapid.

Hemophilia—slow or incomplete.

Hodgkin's Disease—slow, incomplete, sometimes normal.

Jaundice—slow and imperfect.

Infantile Enteric Fever—often rapid.

Leukemia—slow to normal.

Pernicious Anemia—very slow.

Nephritis—variable.

Pneumonia—rapid.

Rheumatic Fever—normal or delayed.

Sarcoma—like cancer.

Scarlet Fever—rapid.

Yellow Fever—slow or entirely lacking.

Since the exact mechanism of the coagulation of the blood is not perfectly understood at present, we are not able to give a simple explanation of the variations in coagulability. Coagulability is influenced by many variable factors, among which may be mentioned:

(1) Concentration of the blood—In some cases the swelling tissues rob the blood of water, and often the physician restricts a patient's fluids.

(2) Changed percentage of coagulating substances (fibrinogen, etc.).

(3) Fluctuations in the influence of sensitizers to, or of protectors against, coagulation. Citrates, oxalates and hirudin** inhibit coagulation. It seems probable that in the blood we have an instance of a cumulative colloidal protection, a chain of proteins tending to keep each other in the sol or fluid condition.

The strengthening or the weakening of any link in the chain naturally alters the sensibility of the system to inciters of coagulation.

(4) Inciters—dust, glass, etc., supply centers of coagulation. We all recall the old-fashioned household expedient of using a cobweb to stop a cut from bleeding. Alum, salts of iron, antipyrine, emulsion of brain substance, etc., serve as styptics or as inciters to clotting. The presence of soluble calcium salts seems to be essential to coagulation, and these are made insoluble by citrates and oxalates.

DEATH (SOMATIC AND CELLULAR)

We must distinguish between *somatic death*, which means the death of the organism as a whole, and *cellular death* which follows slowly thereafter. Thus persons and animals, to all appearance dead, have been restored to life by artificial respiration, or even by prompt massage of the heart itself. Somatic death involves the stoppage of the engine-pump, the heart, which may occur in a variety of ways. (1) The pump itself may fail. (2) The ignition system (the nerves) may fail.

* "A Clinical Hematology," by Dr. John C. Da Costa, Jr., Phila., 1901.

** Hirudin is extracted by macerating the heads of leeches with saline solution. It prevents the clotting of the large amount of blood with which this insect fills itself.

(3) The circuit tubes (the circulatory system) may fail by obstruction (thrombosis) or rupture (hemorrhage).

The cells may live for some time after somatic death, but apparently die in the acid they themselves produce when the circulation stops, and acids (carbonic, lactic, etc.) and waste substances accumulate. Even after cellular death the tissues may retain for several days their ability to respond to electrical stimulation, but this vanishes as bacterial attack and autolysis proceed.

Although every embalmer is taught to make suitable tests to establish the existence of death, the medical profession alone possesses the legal right to declare officially that life is extinct. I know of an embalmer who spent a most anxious time when the attending physician expressed some doubt as to the existence of death prior to embalming, even though the embalmer was positive that the person was dead, and the physician later on came to the same conclusion.

While it is not within the province of embalmers to determine the *cause* of death, the profession should work to acquire the legal right to determine and declare the presence of death, so that in the absence of a physician, precious time may not be lost. For this purpose it may become necessary to establish, legally and by education, a new and higher grade of "Post-Graduate Embalmer," which may be reached by anyone who will study and work to secure the higher qualifications.

RIGOR MORTIS

Rigor mortis is a sure sign of death. It is caused by a lasting contraction of the muscles, which become stiff and harder than usual, lose elasticity, and exhibit a whitish turbid appearance. In life the main fuel of the body is glucose (dextrose), which is found normally in the blood in amounts varying from 0.08 to 0.15 per cent. The muscles (and also the liver) store a large amount of this carbohydrate condensed as glycogen, or animal starch, which during muscular activity is changed again to glucose, and converted into lactic acid. The lactic acid is then oxidized into carbon dioxide and water.*

Upon somatic death, however, the carbohydrate reserve (glycogen) is rapidly converted into lactic acid, and the resulting heat may raise the temperature just after death to over 104° F. The failure of the blood to bring oxygen to oxidize this lactic acid, and to remove the carbon dioxide formed initially, results in an accumulation of acid in the tissue, which tends to make it become more turgid, as is the case with the gelatin swollen in acidulated water.

But rigor mortis is a much more complicated phenomenon than just this, for we must consider the coagulation of a complex colloidal system in each little microscopic cell. The mistake is commonly made of focusing the mental microscope on some one aspect of a problem, thus overlooking others of equal importance. Not only do different species of animals differ among themselves, but individuals of the same species show wide differences in their reaction to the same experimental procedure.

FACTORS INFLUENCING RIGOR

Great variations are found in the onset, development and duration of rigor mortis. With man, it may begin within 10 minutes after death, or it may not start for 7 hours. Muscular strain, electric shock, and strychnine poisoning all hasten rigor mortis. Hunted animals show it quickly, and men killed in battle are often found with

* In his Harvey Lecture (1931), Sir W. B. Hardy reviewed some of the recently unravelled complexities of oxidation in living muscle, where three different systems cooperate.

their muscles set in the final effort they had made. Heat hastens rigor, while cold delays it. Nerves also exercise an influence, for the paw of a cat, the nerves of which had been cut, showed rigor later than the other paw with intact nerves.

The resolution of rigor mortis is not due to bacterial decomposition, for it occurs in sterile or antiseptically preserved muscle. Among the factors influencing its disappearance will probably be found autolysis, enzyme action and decreased swelling consequent upon the development of an acidity exceeding that at which optimum swelling occurs. Mechanical agitation also destroys rigor mortis, just as it does the gel structure of a 1 per cent agar jelly.

That rigor mortis is consequent upon the stoppage of the circulation may be proved by clamping the abdominal aorta of a live rabbit. In 2 or 3 hours this produces a rigor, reversible when the clamp is removed and the circulation renewed. Furthermore, as might be expected, oxygen delays the onset of rigor, and in an atmosphere of pure oxygen it may be kept off for days, or altogether prevented. Thus with thin muscles accessible to the air, no rigor mortis may appear. This is due to the oxidation of the lactic acid; and the same prevention of rigor follows if this acid be allowed to diffuse away into sodium chloride or Ringer's solution. A 0.9% solution of sodium chloride restores the excitability of the muscle lost by the development of rigor mortis.

HEMOLYSIS

The average healthy blood contains 13.88% of hemoglobin, a complex red colored substance which easily takes up oxygen and as easily parts with it. The red blood corpuscles, of which the normal blood contains about 5,000,000 per cu. mm., contain a very much larger percentage of hemoglobin. Its presence in the red blood cells makes them oxygen carriers, and as long as it stays there, it can go only where the red blood cells go or are washed.

But many poisons including most acids, phenol, iodine, snake and scorpion venoms, and vegetable glucosides like abrin and ricin, liberate the hemoglobin from the red blood cells and throw it into solution in the blood serum. Poisons produced in the body by excessive heat (sunstroke) or by bacteria (yellow fever, scarlet fever, black-water fever, malignant jaundice, septicemia, etc.) may accomplish the same results, giving rise to a condition called hemolysis, in which the blood serum, normally yellow, becomes a bright ruby red. Such dissolved hemoglobin may diffuse through the capillary walls, enter the tissues, and cause stains which, after death, are difficult to remove. They are found in so-called "black" scarlet fever, "black" small-pox, purpura hemorrhagica, etc., and are quite different from discolorations due to a gravitational accumulation of blood after death, for these may be removed by washing out the circulatory system.

(To be concluded in July issue)

Malpractice Insurance

(Concluded from page 216)

not in business for their health, none of them—would allow an organization to dictate who should control their legal defense, but this Society did dictate and does dictate who shall defend them, and those of you who have had any business with our counsel and those who preceded him know perfectly well that you are taken care of by a man who is eminently a specialist in the line of malpractice defense. That

was the second point we insisted upon and that we offer you under the group plan. And the third point is that this group plan of insurance is written on practically a cost-plus basis. The experience of nine years with our group plan shows this, that for every dollar that you pay in premiums for your insurance 63½c. is expended for losses, verdicts and settlements; 35c. is expended for expenses—investigation, attorney, trial, court fees, etc.; this leaves an actual profit to the insurance company of 1½c. out of each dollar. Well, the insurance company cannot get very rich at that rate, but it has been satisfied to carry on, feeling that if we could increase the number of members of the State Society who would insure under the group plan it would be in position to reduce the rates and that they could make a reasonable degree of profit.

During the past year (I am digressing for a moment) there have been 8 suits tried in this county. Due to the crowded condition of your calendars, it is almost impossible to get suits on. There has been one verdict for the plaintiff. That speaks pretty well for the counsel of the State Society in the defense of malpractice suits. Forty-seven cases have been dismissed for want of proper evidence and other reasons; 21 suits have been settled during that same period. But remember all those figures do not anywhere near come up to the 169 suits that have been started during the same period of time.

Now, I do not know that it is necessary for me to say very much more to you on this subject.

If you are not convinced that malpractice insurance is necessary to every physician practicing medicine in this county or in any other county, I do not know whether I could convince you if I talked here for a couple of hours longer. I would very much like to have reported to the Insurance Committee that a very much larger percentage of the members of the Kings County Medical Society were insured under the group plan than 50 per cent. of its members. Those of you who are not insured kindly consider seriously the importance of protecting yourselves against suits for malpractice or verdicts that may arise, for I don't care how smart you are, I don't care how capable you are, there have been verdicts rendered against some of the brightest men in our profession, leaders in their fields, and you know of them, and so do I, and I have in my case a list of those 169 suits that have been started during the past 18 months. I want to say to you that in that list are some of the prominent men of this county.

It means not that they lack ability, not that they haven't done everything in their power to bring about a successful issue of the case involved, but through some act perhaps unforeseen by them or over which they had no control, perhaps out of revenge, these suits have been started.

Now, I say to you if you are not insured and we offer you, you offer yourselves rather, because it is your insurance, it is not mine. I don't derive any profit from it, your Society will insure you under the group plan for a rate cheaper than you can get it with any other company and give you the advantages that I have enumerated. Those of you who are insured in other companies I ask this: as your policy year expires take under serious consideration the group plan as sponsored by the State Society and perhaps you will see your way clear to transfer your insurance from the company you are now insured in to the group plan sponsored by our Society.

215 Mill Street.

Contemporary Progress

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Neurology

Treatment of Dementia Paralytica by Hyperpyrexia Produced by Diathermy

C. A. Neymann and S. L. Osborne (*Journal of the American Medical Association*, 96:7, January 3, 1931) report the treatment of 25 cases of dementia paralytica treated by hyperpyrexia produced by diathermy at the Cook County (Illinois) Psychopathic Hospital. Five of these patients were totally demented; except for these five cases, these patients were "rather good risks" for treatment as judged by the general standards accepted for malarial treatment. Two large electrodes were used, one covering the entire back of the patient, and the other the entire chest and abdomen. With a milliamperage above 4000 a split front electrode was used and a rheostat so that two-thirds of the current passed through the chest and one-third through the abdomen. The electrodes were held in place by a close fitting jacket; and the patient kept in bed during treatment and covered with blankets and a rubber sheet. At first the treatment was regulated so as to produce temperature curves analogous to those produced by malaria, but more recently the temperature was kept at 103.5° F. for at least five hours. In beginning the treatment five or six minor and two severe burns were produced, but by improving the technique, and increasing the current gradually, burns have been avoided. No other complications resulted from the treatment; none of the patients died during the course of treatment; 7 patients have been given more than fifteen treatments, and 3 of these more than thirty treatments. Sixteen of these patients, or 64 per cent., had a complete remission and were able to return to their normal life and work; 2, or 8 per cent., were markedly improved and able to live at home under some supervision; 7 did not improve, including the 5 patients who were totally demented; 2 of these have died several months after treatment. The patients in remission have maintained their improvement for four to fifteen months.

[Since the original contribution by Wagner-Jauregg on the fever treatment of general paresis with malaria, there have been many other suggestions, all aiming to induce fever, such as foreign protein, rat bite fever, relapsing fever, etc.

In the attempt to control a disease of such recognized severity, every new suggestion should receive thorough consideration. Successfully induced remissions have been brought about definitely by malaria. The report of Admiral Meagher of Great Britain is a glowing testimonial to the value of malarial therapy. Despite the local benefit of the high febrile reaction, we are asking an already frequently weakened patient to combat a generalized systemic infection—the big criticism of malarial inoculation.

Hence, the value of an easily controlled method. The observations of W. R. Whitney of the General Electric Company are now receiving practical application, and

apparently this treatment is regarded favorably. The new effort of Neymann and Osborne in using diathermy also should receive attention. Their results in twenty-five cases, although a limited series, are excellent. This treatment should receive the earnest consideration of other workers.—H. R. M.]

Stramonium Treatment of Chronic Encephalitis

W. J. Otis (*Southern Medical Journal*, 24:314, April 1931) reports 20 cases of postencephalitic Parkinsonism treated with the tincture of stramonium 10 per cent. U. S. P. All of these patients gave a history of an acute attack of encephalitis lethargica; the time of onset of the Parkinsonian syndrome varied from immediately following convalescence to four years after this acute attack. The average initial dose of the tincture of stramonium in these cases was 20 minims, the average maximum dose 60 minims, three times a day before meals; the medication was pushed to the limit of tolerance. Untoward effects were transitory and not severe in most cases. In all the cases muscular hypertonia was relieved in varying degrees, and disorders of movement were benefited parallel with the muscular hypertonia; 4 patients regained almost normal postures. Myalgia and sialorrhea were relieved in all cases in which they had occurred. Oculogyric crises, which had occurred in 4 cases, were relieved materially. Fifteen of the patients, who had shown an abnormal depressed and emotional state, returned to their normal personality with a feeling of well-being and hopefulness; the other five patients had been fairly well adjusted. Tremor was markedly improved in 3 cases; improved in 14 cases; and but slightly diminished in 3 cases. The author concludes that tincture of stramonium has a definitely beneficial action on the postencephalitic Parkinsonian syndrome.

[There is no doubt that stramonium is a useful adjunct to the very limited therapeutic resources available for the treatment of this malignant scourge.

In the *Journal of the American Medical Association* of December 25th, 1927, A. L. Jacobson and Frederick Epplen had reached the same conclusion as Otis. The remedy is purely palliative—Its greatest effect occurs in the postencephalitic cases.

In the experience of the reviewer, the more used hyoscin seems to produce a more constant benefit over a long period.—H. R. M.]

Encephalitis and Encephalomyelitis in Measles

A. Ferraro and I. H. Schaeffer (*Archives of Neurology and Psychiatry*, 25:748, April, 1931) report 6 cases that developed symptoms of encephalitis and encephalomyelitis during an attack of measles; in 5 cases the first symptom of the involvement of the nervous system was drowsiness; in one paralysis of all extremities developed before the child became lethargic. A histopathological study of the brain (and in some instances of the spinal

cord) in these cases showed practically the same lesions in all. The lesions consisted chiefly of perivascular proliferation formed mainly by microglial elements; the microglial nature of the cells was clearly demonstrated by methods of silver impregnation. Some lymphocytes and a few plasma cells were also present in some cases, but these hematogenous elements were not of great importance, and in some cases were not found at all. The lesions were located predominantly in the white matter, but the cortex was also involved to a lesser degree. With the perivascular proliferation, there was a concomitant perivascular demyelination. Thrombi (red thrombi) were frequently found and vascular changes consisted of swelling or hyperplasia of the endothelium, indicating a participation of the vascular system in the process. Owing to the peculiar type of reaction in these cases, differing from the typical inflammatory reaction, the authors are of the opinion that the encephalitis of measles is a toxic reaction of the central nervous system that may occur in a number of virus infections.

Treatment of Increased Intracranial Pressure

Foster Kennedy and S. B. Wortis (*Journal of the American Medical Association*, April 18, 1931, 96:1284) describe the methods used for the treatment of increased intracranial pressure at the Neurological Department (Cornell) of Bellevue Hospital. These methods are based on an extensive study of the factors and drugs influencing intracranial pressure reported from this clinic in 1927 (by Stephenson, Christensen and Wortis). The treatment consists in: Lumbar puncture to remove spinal fluid (10 to 15 c.c. unless the fluid is purulent) or cisterna puncture if block has occurred (not indicated in cases of tumor in the posterior fossa or third ventricle); the intravenous injection of hypertonic dextrose solution (50 per cent.), 100 c.c. two or three times a day, which also supplies nourishment and combats acidosis; rectal administration of a hypertonic solution, 25 to 30 per cent. dextrose or magnesium sulphate; hypodermic injection of caffeine sodium benzoate, 7½ gr. every four hours; elevation of head of the bed 15 to 45 degrees. In tumor of the posterior fossa or third ventricle, in which lumbar puncture is contraindicated, skull trephine with ventricular puncture into the posterior horn of the right lateral ventricle may be necessary. Surgical decompression is done only if these procedures fail to relieve the increased pressure and patients remain comatose with marked papilledema.

Tumor of the Brain With Disturbance in Temperature Regulation

I. Strauss and J. H. Globus (*Archives of Neurology and Psychiatry*, 25:506, March, 1931) report 3 cases of tumor of the brain without localizing symptoms or definite evidence of an expanding intracranial lesion. All showed mental changes; 2 complained of headache, and the third patient slept much during the day. All ran a febrile course, without any infection or other demonstrable cause for the elevation of temperature. At autopsy, in each of these 3 cases, a neoplasm was found in the subthalamic region with a variable involvement of the hypothalamus; no limitation to distinct nuclei could be established. These findings indicate that a lesion (in these cases neoplastic) in the periventricular zone of the third ventricle and in the tuber cinereum may cause a disturbance in the function of the heat-regulating mechanism. This supports the experimental finding of other investigators (which are briefly reviewed) that the heat-regulating center is in or near the subthalamus.

Physical Therapy

The following abstracts have been selected to show that real progress is being made in the Physical Therapeutics field of practice. The many articles, pamphlets and books written on the use of Physical Therapy measures definitely prove that the profession fully realizes the value of the various physical modalities in the treatment of certain diseases and injuries.—C. R. B.

The Radiotherm

K. C. De Walt (*Archives of Physical Therapy*, 12: 127, March, 1931) describes the radiotherm, an apparatus which has been designed to produce artificial fever for the treatment of disease. Its development was based on the observation of W. R. Whitney of the General Electric Company that the body temperature of men working in the field of high power short wave oscillators was raised. In other forms of electrical diathermy, which have been used for many years, the direct application of electrodes to the body is necessary; with radiothermy it is necessary only for the body to be in the space between two insulated plates in order to raise its temperature. In the construction of the radiotherm vacuum tube oscillators have been used for the production of the high voltage, high frequency oscillatory current. The apparatus, as at present designed, consists of a cabinet with the necessary apparatus for converting the low voltage, low frequency power current to a high voltage direct current, and then by means of vacuum tubes and associated circuits to a high voltage, high frequency energy; this energy is then concentrated by two aluminum condenser plates to a limited field; the patient to be treated is placed between these plates.

In the same Journal, (12:137, March, 1931), C. M. Carpenter describes experiments on the production of high body temperatures in animals with a radiotherm apparatus. The experiments related chiefly to the treatment of rabbits infected with syphilis. It was found that rabbits treated with radiothermy after infection did not as a rule develop any lesion; a few developed atypical lesions which disappeared under further treatment. By means of thermocouples it was found that the temperature of the skin of the scrotum of normal rabbits was 3 to 4° F. lower than the rectal temperature, and the temperature of the testes 1 to 2° F. lower; approximately the same differences were maintained when the animals were heated. The temperature of the liver was higher than the rectal temperature. A temperature of 102° to 103° F. was found to be unfavorable to the development of the spirochetes. A few experiments on dogs to determine the general effects of heating by radiothermy showed "an augmentation of all the chemical processes, especially those which are concerned with the defense of the body."

Radiotherapy of the Sympathetic Nervous System

J. Gouin, A. Bienvenue and M. Peres (*Bulletin Médical*, 45:37, January 24, 1931) report the treatment of various functional menstrual disturbances and associated symptoms by Roentgen-ray irradiation of the visceral sympathetic. The cases treated include all types of irregular and painful menstruation accompanied by various cutaneous symptoms such as acne, prurigo, eczema, pruritus; or by circulatory disturbances; gastrointestinal symptoms, especially constipation or diarrhea; or nervous symptoms—vertigo, migraine, etc. In most cases these symptoms develop only at the menstrual periods, or are worse at these periods, but in some cases they tend to become chronic. The treatment consists in

the application of a 3 to 4H dose of Roentgen-rays over the vertebral axis from the second lumbar to the first sacral vertebra, covering the principal visceral sympathetic field. This dosage is given as a rule in a single treatment. It often results in a temporary exacerbation of the localized cutaneous and circulatory symptoms and in some patients a general reaction characterized by pains in various parts of the body, nausea or vertigo. The best therapeutic results in relation to the menstrual disturbances are obtained in those cases with increased frequency and excessive flow, as these patients show a hypersensitiveness of the sympathetic nervous system in general, on which the irradiation has a sedative effect. The gastro-intestinal disturbances are usually relieved by this treatment; and the cutaneous symptoms that are most closely related to the genital dysfunction have been relieved most rapidly and most completely, such as pruritus of the vulva, eczemas developing at the menstrual period, etc. The authors have treated over 200 patients by this method; the results of a single treatment are usually lasting; recurrences are rare before six months; if symptoms recur after a year or two another treatment gives good results.

The Effect of Radiation on the Blood Chemistry

H. Q. Woodard and H. R. Downes (*American Journal of Roentgenology*, 25:271, February, 1931) report blood analyses on patients after Roentgen-ray treatment for tumors; in all but 2 cases high voltage Roentgen rays were used; in these 2 cases low voltage rays were used. In all cases one skin erythema dose was given. About two-thirds of the patients studied showed no reaction except an occasional vertigo; the others had various degrees of gastro-intestinal upset from slight nausea to attacks of vomiting and diarrhea. No consistent change was observed in the pH, CO_2 combining power or lactic acid content of the blood in these patients; and no significant difference was found in the acidity of the blood between patients suffering from radiation sickness and those who did not show any general reaction. In subsequent experiments on rabbits no significant change in the pH of the blood was observed after lethal doses of high voltage Roentgen rays.

G. Schaal and his associates in the University of Moscow (*Strahlentherapie*, 40:111, March 14, 1931) report a study of the potassium and calcium and K/Ca ratio in the blood following Roentgen-ray irradiation for various conditions in 20 patients. It was found that in the first few days after irradiation—usually up to the fifth day—there is a definite increase in the potassium of the blood, a decrease in the calcium and an increase of the K/Ca ratio; later the potassium decreases, the calcium increases and the K/Ca ratio is lowered. With the increase in potassium, there is a tendency to sympathicotonia; with the increase in calcium, a tendency to vagotonia. This disturbance of the potassium-calcium equilibrium, the authors believe, explains many of the clinical results of Roentgen-ray treatments, such as the immediate reaction or radiation sickness, and the subsequent analgesic effect.

Actinotherapy in Combination With Other Therapeutic Methods.

Austin Furniss (*Physical Therapeutics*, 49:23, January, 1931) emphasizes the importance of using more than one therapeutic method in the treatment of disease. Ultra-violet light radiation raises the general resistance of the body and stimulates the natural defensive processes. It can be combined advantageously with other physical methods; or with drugs. Ultra-violet rays increase the absorption of certain drugs, especially calcium, phosphorus and iodine; while certain other drugs

—particularly the salts of heavy metals—increase the effects of the ultra-violet rays, i.e., act as sensitizers. In regard to the combination of ultra-violet rays with the X-rays, ultra-violet rays if given first, increase the effect of the X-rays, a smaller dose of the latter is necessary, and the danger of X-ray burn is less. The author has found that ultra-violet rays are the method of choice in treating X-ray burns. Ultra-violet rays can also be combined to great advantage with diathermy and with other forms of electricity; as well as with radiant heat, massage and exercise.

Treatment of Pernicious Anemia by Ultra-Violet Rays

D. I. Macht of Johns Hopkins Hospital reports on the work done by himself and his associates in the study of pernicious anemia in the *British Journal of Actinotherapy*, (5:228, February, 1931). He found that the blood in pernicious anemia patients was markedly toxic for *Lupinus albus* seedlings, while the blood of patients with other types of anemia did not show this peculiar toxicity. Further experiments showed that irradiation of pernicious anemia blood in quartz containers with ultra-violet rays markedly reduced this toxicity; this detoxifying action of the ultra-violet rays could be increased by the addition of a sensitizer in minute quantities to the blood; the most active sensitizer was found to be the sodium salt of tetra-brom-fluorescein or chemically pure eosin. In view of these findings a number of patients with pernicious anemia have been treated by various clinicians with general ultra-violet irradiation, using either a mercury vapor or carbon arc lamp; and the blood tested for toxicity by the author's method at intervals. Some of these patients were also given eosin in doses of about 40 mg. intravenously ten to fifteen minutes before light treatments. In these cases, the patients showed a very definite improvement in both subjective and objective symptoms; the blood count returned nearly to normal, and the color index was reduced. At the same time the toxicity of the blood as tested by the author's phytopharmacological method was markedly decreased or disappeared entirely. No other form of treatment has so marked an effect on the toxicity of the blood serum. In some cases of pernicious anemia that did not respond well to liver treatment, the toxicity of the blood has been found to be high; ultra-violet irradiation and eosin, in these cases, not only reduced the toxicity of the blood, but also resulted in marked clinical and hematological improvement. The most efficient wave lengths have been found to be between 3130 and 2967 Å. U.

Public Health

Including Industrial Medicine and Social Hygiene

Atmospheric Pollution

H. W. Green (*American Journal of Public Health*, 21:237, March, 1931) notes that the question of atmospheric pollution is a serious one in all industrial cities. In Cleveland, Ohio, during a twenty-four month period, June, 1927, to May, 1929, an average of 119 tons of material per square mile per month was deposited from the atmosphere at the downtown (industrial district) collection station. This, on analysis, showed 23 per cent. carbon and 77 per cent. ash of which 30 per cent. was Fe_2O_3 ; in residential districts the percentage of Fe_2O_3 was much less. Not all of the solid pollution of the air results from the combination of coal; dust and dirt particles from many sources, especially from wrecking old structures and building new ones, iron from industries working this metal and from the wearing of iron rails; products from the wear of asphalt pavements

and organic matter are found in the deposit. In addition there is the gaseous pollution of the atmosphere from coal combustion, oil burners and various industrial processes. It is evident that the production of black smoke that is "belched forth" from smoke-stacks and chimneys is not the only problem in air pollution, although it is the one naturally receiving the most attention from health authorities.

F. O. Tonney and C. R. DeYoung (*American Journal of Public Health*, 21:344, April, 1931) emphasize another phase of the atmospheric pollution problem. They note that the atmospheric pollution in any large city is sufficient to shut out the shorter ultra-violet rays of the sunshine to an extent prejudicial to health. In agreement with Green, they note that this is due not only to the presence of black smoke, but also to the ash particles in the atmosphere, when forced draught measures are used to reduce the visible smoke. In Chicago, in looking over the city from a high tower or an airplane on a clear day in the summer when combustion is at a minimum, it is seen that "a vast cloud hangs almost continually over the city." A study of the relation between deaths from acute respiratory diseases per month and the erythema hours of sunshine per month in Chicago, during 1926 and 1927, showed a remarkable correlation: Periods of low erythema hours are followed by periods of high respiratory death rates with a "lag" of one or two months; periods of higher erythema hours are followed by a reduction in respiratory death rates with a similar lag. The authors claim that the remedy for this condition of atmospheric pollution lies not in "smoke control" but in "smoke eradication." Toward this end, they suggest the need of development of electric and gas heating and the use of central steam heating in the more congested districts.

Water-Borne Typhoid Still a Menace

A. Wolman and A. B. Gorman (*American Journal of Public Health*, 21:115, February, 1931) present a study of typhoid incidence and mortality in the United States and Canada as shown by public health reports. This shows a marked drop in the typhoid death-rate in both countries, but also shows that in the last decade, 1920-1929, there have been 282 outbreaks of typhoid traced to water pollution; 64.9 per cent. of these outbreaks in the United States and 77.5 per cent. in Canada occurred in small cities of 5,000 population or less. Over three-quarters of the water-borne epidemics were due not to pollution of the water-supply at its source, but to defects in the system for collecting, treating, storing and distributing the water. Unprotected cross-connections between polluted fire supplies and public water supplies used for drinking were the most important single cause of water-borne outbreaks of typhoid in this decade. The need of constant supervision and control of water-supply systems, especially in the smaller cities, is evident.

Industrial Cancer

L. D. Bristol (*Medical Journal and Record*, 133:236, March 4, 1931) notes that the industries showing the highest incidence of cancer are chimney sweeps, aniline workers, briquette workers, mule spinners, shale oil workers, tar workers, anthracene workers and petroleum workers. These occupations involve constant contact with soot, aniline, pitch, paraffin, tar, anthracene, or petroleum, i.e., either pure carbon or various forms of hydrocarbons and their derivatives. The author is of the opinion that the occupations of seamen and fishermen should be added to this list, as these occupations show a relatively high cancer rate and involve constant contact

with tar, one of the most important "cancer provoking" hydrocarbons. In accordance with the author's enzyme or catalyst theory of malignant growths, industrial cancer is due very largely if not entirely to the surface catalytic effect of finely divided carbon or growth promoting and growth inhibiting enzymes of local epidermal cells, in combination with the effect of increased temperature, a change in the hydrogen ion content of tissues, and mechanical irritation.

S. A. Henry, N. M. Kennaway and E. L. Kennaway (*Journal of Hygiene*, 31:125, April, 1931) found that in England and Wales eight out of ten occupations associated with exposure to coal gas, tar, pitch or soot show a higher incidence of bladder cancer than the general male population. The three occupations showing the highest incidence are patent-fuel workers, gas-works employees, engine and crane drivers and tar-distillery workers. In these three occupations the incidence of cancer of the prostate was low or relatively low. In some of the other occupations with relatively high rates for bladder cancer, the rates for prostatic cancer was also relatively high. However, the data for cancer of the prostate give less consistent evidence of an occupational liability than that for bladder cancer.

The Crime of Venereal Infection and Tertiary Syphilis

V. M. Palmieri (*Urologic and Cutaneous Review*, 35: 216, April, 1931) states that infection of another person with venereal disease was first made a crime by the Danish Penal Code of 1866. Since the war, however, the "crime of venereal infection" has been introduced into the penal code of a number of European countries, of Australia, Canada, 31 states of the United States, and has recently been included in the new Italian Penal Code that goes into effect July 1, 1931. The various codes usually provide that the offense does not necessarily require that infection occur; the act itself is sufficient if the offender has the disease in a contagious stage. The Italian Penal Code also provides that the offender must have a realization of the risk of infection. The author notes in relation to such penal codes that the question of the contagiousness of tertiary syphilis may become of definite importance. This question he believes must be decided in each case. A syphilitic with tertiary lesions may be contagious; the spirochete may be found in such lesions; the longer the duration of the syphilitic infection, the less likely are tertiary lesions to be infective. Recent investigations have indicated that the sperm of a syphilitic without active, contagious lesions, may be infectious. In deciding this question in the absence of external lesions, the sperm should be injected into the eye of a rabbit. Under the Italian and similar penal codes, the question of knowledge on the part of the offender in relation to the danger of infection must also be considered.

Syphilis and Gonorrhea as Causes of Blindness

B. F. Royer (*Journal of Social Hygiene*, 17:151, March, 1931) estimates that approximately 15 per cent. of all blindness in the United States is due to syphilis; and for every case of total blindness, there are "a still greater number, certainly several times as many, whose vision has been seriously impaired because of the ravages of this disease." Optic atrophy is probably the most common form of blindness due to syphilis, especially the acquired form of the disease; but blindness may also be due to syphilitic involvement of other tissues of the eye; in congenital syphilis the front tissues of the eyeball are more apt to be involved than the optic nerve. In addition to general measures for the control

of syphilis, the most important factors in reducing the incidence of blindness due to syphilis are the early and intensive treatment of every case of the disease, and the treatment of pregnant women with any evidence of syphilitic infection. In regard to gonorrhea, available figures indicate that a little less than 4 per cent. of all blindness in the United States is due to gonorrheal infection of the eyes of the new-born, while blindness from adult infection is less frequent (not over 1 per cent.). The routine prophylactic use of silver nitrate is the measure for the prevention of gonorrheal ophthalmia neonatorum. Statistics from schools for the education of the blind indicate that the number of cases of blindness due to ophthalmia neonatorum is steadily declining since this prophylactic measure has been more widely enforced.

Ophthalmology

A New Instrument for Testing the Light and Color Sense

C. E. Ferree and G. Rand (*American Journal of Ophthalmology*, 14:325, April, 1931) describe a new instrument for testing light and color sense designed at the Wilmer Ophthalmological Institute of Johns Hopkins Medical School. The general plan of the instrument is as follows: Light from a circular intake, 14 mm. in diameter, is collimated and focussed to an image; the light from this image is again collimated and focussed to a second image which is approximately at the nodal point of the refracting system of the eye. The intake is covered with a plate of diffusing glass and its first image is also received on a plate of diffusing glass; these plates secure an evenly illuminated test field. The intake is illumined by a small lamp, the distance of which from the intake can be varied. The eyepiece has a viewing aperture 1 mm. in diameter which does not contain a lens. Various stops and diaphragms, including an iris diaphragm, are used to change the size and shape of the test field and to aid in varying the intensity of the illumination. The tube containing the optic parts is light-tight except for a provision for illumination of the reading scales. The optical system is made up of two sets of collimating and focussing lenses; the set of lenses nearest to the eye furnishes the test field; the principle is that when the nodal point of the refracting system of the eye is placed at the principal focus of a lens that receives parallel rays of light, the lens appears as filled solidly and uniformly with light, thus providing a satisfactory test field. In the calibration of the instrument the amount of light actually entering the eye can be measured. For determining the light difference, a checking standard is provided including a photometric field, a tube with a standard lamp of the same type as that used in the test field, and an eyepiece. For testing the color sense, appropriate color filters are inserted. This instrument differs from others in that all the light in the test field enters the eye; changes in the size of the test field can be quickly and easily made. The results are independent of changes in the size of the pupil and of the condition of refraction of the eye. It has proved of special advantage in testing for central scotomata for either light or color, too small to be detected on the tangent screen.

The Eye in Tuberculosis

M. Goldenburg and N. D. Fabricant (*Archives of Ophthalmology*, 5:66, January, 1931) report a study of the eyes of tuberculous patients in the Municipal Tuberculosis Sanatorium of Chicago, "the largest sanatorium

in the world." Of the 1,073 patients only 7 showed pathological changes in the iris, or 0.65+ per cent., and only 3 of these could be considered as tuberculous lesions, a percentage of 0.27+ per cent. In 914 of the cases in which the fundus was examined 78 showed some deviation from the normal; in only 19 of these, or 2.08 per cent. of the cases, could the lesions be considered tuberculous. In these cases the pathological changes consisted either in white, yellowish or grayish spots surrounded by a fringe of pigment epithelium that appeared as if being slowly bleached out, or large diffuse areas of light yellowish-pink or light gray with irregularly distributed pigment, the pigment epithelium showing various stages of bleaching, the chromatophores being less changed, as in the pigment spots described above. The blood-vessels were comparatively normal. In all but one case, these lesions were unilateral. In none of the cases in this survey was an active tubercle of the eye found. The fundus changes, the authors believe, were probably a tissue reaction to a tubercle that had healed. In all of these cases the patient either was toxic at the time of the eye examination, or had been so previously. The authors therefore find no evidence of tissue changes in the eye as a result of a so-called tuberculous toxemia, unless the pigment changes are so interpreted. They believe that tuberculosis of the eye is caused by the localization of an embolic focus of the tubercle bacillus.

[This is an extremely interesting report and shows very well the infrequency of tuberculous eye conditions in the patient with a general tuberculous infection. This is a well proven fact. Just why we do not see the tuberculous eye lesion more frequently when there is an active focus in the body has not been explained.—W. B. W.]

Ocular Evidence of Vitamin-A Deficiency

A. Pillat (*Zeitschrift für Augenheilkunde*, 73:244, February, 1931) reports that in a child with malnutrition and marked vitamin-A deficiency typical keratomalacia developed in one eye. The other eye appeared normal, but smears taken carefully from the cornea in this eye showed an excessive increase in the normal saprophytic bacteria of the eye, and especially of cocci of the type of streptococci. All the smears also showed the presence of degenerating epithelial cells. When the vitamin-A deficiency was corrected, the numbers of bacteria rapidly diminished. Further study has convinced the author that this increase in the saprophytic bacteria of the cornea with evidence of epithelial degeneration is one of the earliest symptoms of vitamin-A deficiency in man; it can be demonstrated long before keratomalacia develops. It is due, he believes, to the effect of the vitamin deficiency on the corneal epithelium, the saprophytic bacteria, normally present in small numbers, multiplying rapidly on the degenerating tissue cells. That the process is primarily a degenerative and not an inflammatory process is shown by the absence of leucocytes and lymphocytes.

Use of Contact Glasses

Leopold Heine of the University of Kiel, Germany, (*Lancet*, 1:631, March 21, 1931) states that he has found contact glasses of increasing value. Proper fitting of the glasses is necessary for their successful use. The set of glasses used for fitting should be in duplicate to test binocular vision, as few patients can decide from a uni-ocular test whether they can wear the glasses. The minimum requirement is a set of 5 to 11 mm., varying from each other by about 1 mm.; best of all is to have a set varying by 0.25 mm. The scleral radius, i.e., the radius of the contact ring, should vary from 11 to 13 mm. by 0.5 mm. The ordinary contact glasses may be tinted

(Concluded on page 232)

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War, Pestilence and the Doctor

A questionnaire was recently sent out to 53,000 clergymen in the United States on the subject of war. Nearly 20,000 replied, most of them leaning strongly toward pacifism.

It has been suggested that it would be interesting to ascertain the reaction of the medical group to a similar questionnaire.

We should doubt very much the value of such a questionnaire. First, the peacetime attitude of any group in this age on such a subject is in no sense a warranty of its wartime attitude; passions and fears are not factors in time of peace. Second, the very same idealists who now in peacetime would tend to react pacifistically to suggestion would in time of war tend to react chauvinistically.

The questions sent to the clergymen included the following:

Do you believe that the churches of America should go on record as refusing to sanction or support any future war?

Are you personally prepared to state that it is your present purpose not to sanction any future war or participate as an armed combatant?

Could you conscientiously serve as an official army chaplain on active duty in wartime?

Do you regard the distinction between "defensive" and "aggressive" war as sufficiently valid to justify your sanctioning or participating in a future war of "defense"?

It seems to us that the faulty logic in the minds of the professional propagandists who at present concoct such

ingenious publicity schemes in behalf of thoroughgoing pacifism as a cure for war can be made clear by a hypothetical questionnaire addressed to physicians, not on the subject of war, but on that of disease. It will be granted that the physician hates the common enemy, disease, equally as much as any clergyman hates war, and that he is much more anxious to prevent disease than he is to grapple with it in some noisome alley. Very well, then, a medical questionnaire, quite as logical as that sent to the clergymen, would run about as follows:

Do you believe that organized medicine should now go on record as refusing to treat any future pestilence, such as pandemic influenza, since such invasions are preventable?

Are you personally prepared to state that it is your present purpose not to engage as a practitioner in the curative treatment of any future pestilence?

Could you conscientiously serve as a sanitary officer on active duty in the face of pestilential invasion?

Do you regard the distinction between cure and prevention as sufficiently valid to justify your refusal to participate in the curative treatment of a preventable pestilence?

The trouble is that the individual citizen as we meet him plays no personal part whatsoever in the bringing on of war. When it comes he aids the national forces, assuming that everything humanly possible in a somewhat backward age has been done to prevent war. The individual physician as we meet him is not personally responsible for pestilence and knows that organized efforts are usually successful in holding such a calamity in check. When it comes he, too, aids the national forces. Neither of these men could, sensibly, adopt a high hat moral attitude, as things are now, in the spheres indicated.

We are still in the social age of Osler. He may be regarded as the apex of a medical pyramid which reacted to war in the traditional, inarticulate way. That way has been well described by Stuart Sherman, who, writing of Osler ("Critical Woodcuts," Charles Scribner's Sons, 1926), said:

He had to take his part as a medical officer in the war, but I find no evidence that his heart was in it. Hesitantly bowed to the inevitable as silently as possible. The entire vast madness lay entirely outside his scheme and philosophy of life. The Stoics whom he loved, Marcus Aurelius and Epictetus, and his adored Sir Thomas Browne, had taught him early to denationalize himself, to think of the human race fraternally, and to cultivate charity toward all men. As a man of science, he knew that he must be a cosmopolitan: there are no national boundaries to the commonwealth of science. And so he went about with tight lips and a stricken heart visiting the hospitals and preparing himself to surrender all that makes life of much account to a man who has done his work. . . . Dr. Cushing gives us some captivating glimpses of Osler's notable wife and of his only son, an affectionate boy after his father's own heart, and with his own tastes, a pacific book lover and angler of Izaak Walton's school, soon to be employed in stopping German shrapnel with chest, abdomen and thigh.

However, the now germinating medical leadership of the near future will use its high intelligence effectively to prevent war as well as pestilence. The physician's instinct to conserve life, to obviate the senseless butchery of youth, whether by sword or bacillus, will create in time a leadership and statesmanship that will bring into the domain of our public relations more of the unique spirit and understanding of a Crile, who, while he saw and participated in the surgical shambles of the World War, realized the criminal waste, studied all the social, psychologic and physiologic factors scientifically, and was highly articulate with respect to possible dealings with the problem.

The sequence, then, is as follows: the Osler type, the articulate Crile, and the thoroughly enlightened leader who will do much to rationalize the thinking and behavior of our future society. Not forever will wars be determined by a system in which the voices of civilized men are not always effectual.

A Plea for Earlier Immunization

According to the statistics the yearly incidence of diphtheria in New York City for the years 1921-1929 averaged 10,279 cases with an average mortality rate of over 600 per annum. The incidence for 1930 was 3,794 with a death toll of 198. It is quite evident that the intensive campaign inaugurated against diphtheria in 1929 has very substantially reduced our diphtheria mortality. We feel, however, that the morbidity and mortality rates can be lowered still more by advocating earlier immunization, that is, at the completion of the sixth month rather than the ninth month.

If we consult the yearly report in New York City for 1930, we will find that there were 96 cases of diphtheria in children under one year of age and 250 cases in children from 1-2 years old. From this it can be seen that it is not enough to advocate "routine immunization of children as soon after the ninth month of life as possible." If we immunize at nine months, the children will not be protected until they are 15 months old. At least 20 per cent of these children will need a second course of injections and they will then be 21 months old before they are protected. The incidence of diphtheria in children from 1-2 years old is at least two and a half times that in children under one year of age. It seems plausible, therefore, to believe that immunization begun when the child has completed its sixth month of life will materially reduce the incidence of diphtheria in children under two years of age, since it will protect more children by the time they are 12 months old.—G. J. B.

Maternal Mortality

The New York City Health Department's studies have already shown that late marriages and postponed childbearing have something to do with our allegedly high maternal mortality. In this issue Dr. Barry of the Department makes the further suggestion that our manner of compiling statistics on this subject may differ from the European. It may be that our comparative record is not so "disgraceful" as many publicists are proclaiming in stentorian tones.

We are not responsible for the late marriages and postponed childbearing which contribute to obstetric mortality, for the failure to provide adequate prenatal-care facilities, for the twelve to fifteen million illiterates in the country whose ignorance, according to Alderman of the United States Office of Education, interferes so remarkably with the child hygiene program and by the same token with obstetric hygiene, nor for economic factors which tend to wreck expectant mothers despite our best efforts.

The Baneful Psalm of Moses

Doctor Nasher's article in this issue will gain point for the reader when it is recalled that he was the author of the first American textbook on geriatrics and that he even christened the specialty in 1909. With characteristic modesty he does not identify the institution he speaks of in the article as the one which is now the scene of his productive labors. There he is actually rehabilitating four hundred men, many of whom have not worked for years—a notable achievement when one considers the appalling difficulties. It seems most fitting that this pioneer geriatrist, whose name will have a definite place in the annals of American medicine, should now be engaged in such practical application of his own ideas regarding longevity and in spreading the gospel of a ninety-years normal duration of life instead of the Biblical seventy.

Artist and Scientist

After much close observation of two great human breeds—artists and scientists (of the medical persuasion)—we have reached the conclusion that the one is no more outré in make-up and behavior than the other. Personal oddities—to put the matter discreetly—are surely as great in the one case as in the other; and which is the more egregious spectacle, the artist who paints an alleged nude descending a staircase, or the scientist whose happy hunting grounds are in the intestine of the cockroach? The artist writes of his sojourns in the ateliers of Florence or Paris; the scientist descants of his twenty years in the vagina. In the words of the immortal bard: "God forgive us all."

Birth Control

The *Journal of the American Medical Association*, in its editorial columns (April 25, 1931), recently cited the psychologic, esthetic and economic objections to present methods of birth control. It looks forward expectantly to biologic control that will be independent of the person treated and efficient for reasonable periods of time.

Medical objections might also have been cited against present methods. To believe that the constant use of phenolized and mercurialized douches, irritating jellies, and clumsy mechanical devices, some of them entering the os uteri, are not contributive factors in the causation of cancer of the cervix in predisposed individuals is to reveal a rather high degree of professional *naïveté* and to set at naught all modern prophylaxis preachments.

As medical scientists we must insist upon rational methods or none. When we have developed such methods and are using them in the presence of legitimate medical indications, we shall look back upon the present era as a barbaric one, unworthy of civilized men. Meantime it should not be apologized for, much less defended.

And what enlightened medical man takes any stock in a position which, while it affirms a given woman to be not in condition to bear a child, sees no inconsistency in proclaiming such a pathetic figure fit for the exactions put upon her by sex relations?

American Psychopathology: A Phase

Americans are characteristically putting depression and unemployment on the map in a "big way." That is the way we do everything. It will not be long before we shall put prosperity on the map again in an equally "big way."

If we are suffering from economic ills they must, necessarily, be played up by the press as the worst and deepest of the world's depressions and made as objective as possible. If we are prosperous, our boasts and extravagant displays know no bounds. When the time comes, the war debts will be cancelled as a mere bagatelle.

This is the manic-depressive temperament in full flower. Nations as well as individuals may display this make-up, when the mob mind is unleashed.

The task of mental hygiene properly includes the abatement of national as well as individual psychopathology. This implies the intensive nurture of realists and a lessening of the mouthings of our 'wild jackasses.'

The maintenance of the country's essential soundness depends upon the abatement of all such menacing factors as we have instanced and the attainment of a reasonable degree of psychological health.

The ultimate prognosis is good, despite the mob's present sickness.

Corneal Ulcer

Always search for a focus of infection in a tooth.

Erythrol Tetranitrate Merck

Literature on request

Chart shows relative reduction of pulse tension produced by

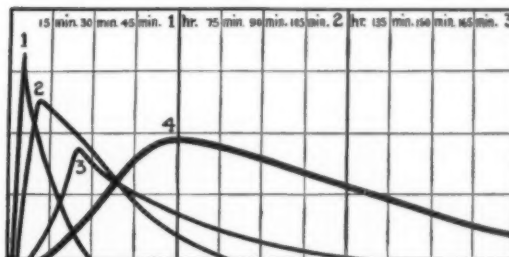
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Useful in Angina Pectoris, vascular diseases, and as a prophylactic for anginal pain.

Tablets— $\frac{1}{4}$ grn. Bottles of 50
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Summer Diarrhea

The following formula is submitted as a means of preparing suitable nourishment in intestinal disturbances of infants usually referred to as summer diarrhea:

Mellin's Food . . . 4 level tablespoonfuls
Water (boiled, then cooled) . 16 fluidounces



This mixture contains proteins, carbohydrates and mineral salts in a form readily digestible and available for immediate assimilation.

The need for protein is well understood as is also the value of mineral salts, which play such an important part in all metabolic processes. Carbohydrates are a real necessity, for life cannot be long sustained on a carbohydrate-free diet. It should also be stated that the predominating carbohydrate in the above food mixture is maltose—which is particularly suitable in conditions where rapid assimilation is an outstanding factor.

Further details in relation to this subject and a supply of samples of Mellin's Food sent to physicians upon request.

Mellin's Food Company

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It helps us to have you mention MEDICAL TIMES when writing advertisers.

Associated Physicians of Long Island

The Spring meeting of the Associated Physicians of Long Island will be held on June 20th, 1931, at the South Shore Yacht Club, Freeport, Long Island. As this date falls on a Saturday it is hoped that a large number of men will take the day off to enjoy an outing as well as benefit by an unusual scientific program.

Dr. Jacques of Lynbrook will procure the presentation of a three-reel moving picture on, "Mosquito Extermination and Control in Nassau County."

The scientific program, other than the moving picture, has not been announced, but assurances have been given that it will be concise and snappy according to the custom of the society.

The local committee will have boats and bait to accommodate about one hundred and fifty members and friends, who wish to go fishing, boating or sailing. This is a wonderful opportunity to get acquainted with the waters in the vicinity even to the extent of a sail on the ocean.

The dinner will be one of the best Shore Dinners obtainable anywhere, with all that goes towards making it more palatable. Lunch at the club and golf will be provided.

In case of inclement weather or disinclination to participate in the water sports or golf, the business meeting will be of enough interest to please everyone.

Kindly remember the date and make a memorandum right now on the proper page of your engagement book.—THOMAS B. Wood, Chairman.

Addison's Disease

Leonard G. Rowntree, Carl H. Greene, Rochester, Minn., and Wilbur W. Swingle and J. J. Piffner, Cold Spring Harbor, N. Y. (*Journal A. M. A.*, Jan. 24, 1931), discuss their results in the treatment of Addison's disease, with various suprarenal preparations. Fifty-seven patients have been subjected to the so-called Muirhead treatment. Thirty-two cases are reported as temporarily benefited, and in twenty of these the immediate results were excellent. In some cases this period of improvement lasted for weeks, in others for months, and in ten cases for periods of from three to seven years. In contrast to this, the treatment was entirely without beneficial effect in twenty-five cases. The latter patients usually did not tolerate the epinephrine well, complained of increasing weakness and trembling and of nausea and vomiting, and in these cases there was a lowering, rather than an increase, in blood pressure. In general, with the Muirhead treatment, half of the patients showed some benefit, a third responded with results that were considered excellent, and a sixth were living after three years. The results of the Muirhead treatment may well be likened to those of treatment with roentgen rays or radium in carcinoma. With the application of radium marked temporary improvement is common, and remissions last for weeks, months and occasionally for years. And just as radium is curative in many cases of carcinoma of the cervix, so the Muirhead treatment is effective in certain types of Addison's disease. Radium is regarded usually as palliative in carcinoma; the Muirhead treatment is also palliative, but like radium it may also closely approach a curative measure. Various other products, prepared from the suprarenal gland or closely related to epinephrine either in their chemical structure or pharmacologic action, have been tried in the treatment of Addison's disease, including ephedrine and the cortical hormone of Swingle and Piffner. The effect of this last named preparation was observed on six patients. The amount of cortical hormone available for clinical use has been small and its delivery irregular, so that as yet it has not been possible to make a complete clinical study. The results to date, however, warrant this preliminary report. Their results convince the authors of the efficacy of this cortical hormone. The disappearance of anorexia, the increase of appetite to the point of hunger, the gain in weight, and the definite euphoria were striking in all cases. As long as the preparation could be administered, the results were all that could be desired. However, the supply of the preparation has been extremely meager and intermittent, so that it has not been possible to observe the results following consistent dosage and continued administration. Moreover, the first preparation used was not free from epinephrine and was irritating locally. The later supply, however, was almost, if not wholly, free from epinephrine, was suitable for intravenous administration, and was much less irritating when injected subcutaneously. Under ordinary conditions, the intravenous method of administration would seem to be preferable. The usual dose is from 10 to 20 cc. daily in divided doses, but 20 cc. has been given to a patient at one time without any undesirable reaction, and as much as 100 cc. has been given intravenously to dogs without any untoward effects. The immediate results in a crisis are excellent. The disease, however, is chronic, and it will be necessary for several years to elapse before a final appraisal can be made of the value of this cortical hormone in Addison's disease. The first three patients had previously been under the Muirhead treatment and all three stated that they felt

better when this cortical hormone was given than with any treatment which they had received before. The return of appetite and the increase in weight have been the most striking effects witnessed by the authors in their entire experience with this disease. They are inclined to believe that the cortical hormone is as effective in meeting the crisis of Addison's disease as is insulin in diabetic coma. Although somewhat less prompt and dramatic in action, the results are almost equally striking. With unlimited supply of the hormone, it is possible that patients may be completely rehabilitated.

Treatment of Secondary Anaemia

Patients with secondary anaemia due to chronic hæmorrhage or chronic chlorosis are said by John H. Powers and William P. Murphy, Boston, to respond very favorably to treatment with iron in the form of ferrous carbonate. They respond equally well when whole liver is given in conjunction with iron. Liver extract is of no value in the treatment of these types of chronic secondary anaemia. The effect of iron or of whole liver is not increased by the simultaneous administration of liver extract.—*J. Am. M. Ass.*, Feb. 14, 1931.

A New Urinary Antiseptic

As a result of extensive clinical and laboratory tests, a new urinary antiseptic possessing unusual merits, known as Niazo, is now being introduced. The product has been favorably commented on by those who have tested it. They are highly enthusiastic over the rapid absorption and extraordinary penetrative powers of the product.

Two or three hours after the chemical has been ingested, the urine becomes reddish yellow in color and remains so even two or three days after its administration has been discontinued. It has been found that the semen, prostatic secretion and cervical mucosa assumes a distinct yellow coloration. They have shown that the dye accumulates in the tissue prior to excretion. The bactericidal properties of the drug are tremendous and laboratory tests of dilutions as high as 1:10,000 on the various organisms have shown the drug to be potent to a considerable degree. They have emphasized the following advantages of this new dyestuff; that it is as efficacious in acid as it is in an alkaline medium. It does not cause irritation even when used during the most inflammatory processes, enabling the physician to use the material in most acute gonorrheas and cystitis. The spreading of infection has been limited by its powerful inhibition of bactericidal growth. Complications have been prevented in pyelitis, cystitis, bacteriuria, and specific urethritis. This has been made possible on account of the immediate attack which it exerts. It has found favor in all sorts of conditions where a prophylactic action has been necessary. It has been found especially useful in urinary retention and it has been ideally used in pre-operative and post-operative conditions. One of the interesting phases of this material is its distinct sedative activity which has made it most useful in the control of strabular and tenesmus hernias.

Dr. Herbert Sugar of Los Angeles, California, has done a very careful piece of research on this material, and in a paper entitled "Internal Antisepsis: A Clinical Study of a New Diazotized Pyridin Product for Oral Therapy in Urinary Infections" he comes to the following conclusions:

"In conclusion we can say that in Niazo we have a valuable preparation added to our urological therapeutic armamentarium. These preliminary clinical reports have convinced us that it is a preparation of such merit that it bids fair to become the dominant drug in this field. Administered by mouth it is excreted in the urine, rendering the same a deep orange yellow to orange red color. Its bacteriostatic power is such that it definitely inhibits further growth of bacteria in the urine thus limiting the spread of infection and hastening recovery. Its clinical application has shown that it shortens the course of the disease and prevents complications in pyelitis, cystitis, prostatitis and specific urethritis. The early treatment of acute specific urethritis with Niazo restricts the infection to the anterior urethra and prevents its extension to the posterior urethra as well as other complications. Microscopic study demonstrates the remarkable properties of this antiseptic dye to quickly check the bacterial growth in these urinary infections.

The following requirements are necessary for an ideal urinary antiseptic:

1. Stability.
2. Germicidal efficiency.
3. Bacteriostatic or antiseptic properties for high dilutions in urine regardless of reaction in the latter.
4. Bio-chemical reaction and penetrating power.
5. Should be non-toxic and non-irritating to the urinary tract, and
6. Should be largely eliminated by the kidneys.

These have been met in every respect and Niazo has fulfilled all of these conditions. The medical profession will welcome this new and highly efficient urinary antiseptic.

Literature is obtainable from Schering Corporation, 110 William Street, New York City.

MEDICAL BOOK NEWS

Edited by WILLIAM HENRY DONNELLY, M.D.

All books for review and communications concerning Book News should be addressed to the Editor of this department at 1313 Bedford Avenue, Brooklyn, New York.

JUNE

REVIEWS

Oedema of Bright's Disease

THE OEDEMA OF BRIGHT'S DISEASE. By Ch. Achard, translated by Maurice Marcus, M.B. New York, The Macmillan Company, 1930. 231 pages. 8vo. Cloth, \$3.25.

With the idea of promoting freer interchange of medical and biologic thought between the British and French schools of medicine, a series of Anglo-French monographs is being issued simultaneously in French and English under the joint editorship of F. G. Crookshank and Reno Crucket. Archard's 231 page 12-mo is of this series, and in his presentation of the facts of edema has given us a splendid account of the phenomena of its pathogenesis, clinical aspects, and therapy.

The author's particular contribution to water metabolism has been his description of the "lacunar system", that reservoir for water which exists in the connective tissue spaces of the body. Hydrostatic pressure, protein osmotic pressure, crystalloids and electrolytes in their summation of influence either fill or deplete the lacunar system, and clinical edema rises and recedes as a result.

The influence of restriction of fluid by Karel diet, the efficacy of the salt-free diet of Widal and Javal and the high nitrogen (protein) diet of Epstein are discussed with attention to detail.

Diuretics are thoroughly discussed: the theobromine group, urea as per Senator and Klemperer, the calcium salts, the mercurial products of novasurol, Salyrgan and neptal, and gland products.

The book is a valuable contribution to the internationalization of medical thought.

FRANK BETHEL CROSS.

Minor Surgery and Bandaging

MINOR SURGERY AND BANDAGING. By Gwynne Williams, M.S., F.R.C.S. Twentieth Edition, Philadelphia, F. A. Davis Company, 1930. 445 pages, illustrated. 12mo. Cloth, \$3.50.

This single volume of four hundred and forty-five pages with two hundred and sixty-two illustrations is well printed and well bound in a flexible cover. The book appears as the twentieth edition; the original edition having been first printed in 1861. It contains seventeen chapters.

The subject matter gives in a very terse but comprehensive manner all of the salient points of so-called minor surgery. The treatment of the various surgical emergencies which are commonly met with in the emergency wards in the larger hospitals are all considered and are well dealt with. The book has been brought entirely up to date. There is a chapter on rectal analgesia and also one on the injection treatment of the varicose veins.

The work is presented especially for the use of house-surgeons and the younger practitioners of medicine and surgery.

MERRILL N. FOOTE.

Text Book of Massage

A TEXTBOOK OF MASSAGE FOR NURSES AND BEGINNERS. By Maude Rawlins. St. Louis, C. V. Mosby Company, 1930. 144 pages, illustrated. 12mo. Cloth, \$2.00.

The Authorship of this book is very much to the point when she claimed it is for the beginner and student. While elementary, it plainly explains the various terms as used in this art. It further emphasizes that simple rubbing of the skin is not massage, but that deep penetration of the muscles is the only way to obtain beneficial results by direct action on the peripheral vascular system.

Following fractures a very important point is brought out when emphasis is placed on massaging above and below a break not directly over it, also the elimination of all massage or rubbing to acutely inflamed articular joints. Many masseurs will attempt their own treatment without supervision of the physician and

often do more harm than good because of insufficient knowledge of anatomy, physiology and pathology.

JOSEPH I. NEVINS.

Arterial Hypertension

ARTERIAL HYPERTENSION. By Edward J. Stieglitz, M.D. New York, Paul B. Hoeber, Inc. 1930. 280 pages, illustrated. 8vo. Cloth, \$5.50.

The author states, in the preface of this scholarly presentation of a common condition, "The term high blood pressure is undesirable as it constantly calls attention to the blood rather than the vascular structure themselves. The site of the disease is in the vessels; therefore, the term vascular hypertension is better, and arterial hypertension is even more applicable. We should be constantly reminded that hypertension per se represents a physiologic reaction occurring in disease of the smaller arterioles and is in itself not a disease. Arteriolar hypertonia is the fundamental change; the increase in intravascular pressure is secondary thereto." Beginning with the problem which confronts us, the author reviews the anatomy, physiology and pathogenesis of hypertension. This leads to the etiology, symptoms, treatment and prognosis of this condition. The factors of cardiac and renal reserve are discussed. A chapter is devoted to arterial hypertension in pregnancy. A most complete bibliography is added. This scholarly work will require much study to digest and is well worth the time needed to grasp the significance of the subject. It is well published with excellent illustrations.

HENRY M. MOSES.

Selected Readings in the History of Physiology

SELECTED READINGS IN THE HISTORY OF PHYSIOLOGY. Edited by John F. Fulton, M.D. Springfield, Charles C. Thomas, 1930. 317 pages, illustrated. 8vo. Cloth, \$3.00.

These readings represent a collection of original descriptions of great discoveries and contributions to physiology. Nothing is more inspiring to an investigator in medicine or the practising physician than a perusal of original writings of medical landmarks. It furnishes the reader the very foundation of his knowledge of the scientific basis of disease. Numerous explanatory notes by the author help to round out a fascinating tale. The book is arranged by subject, covering Circulation, Capillaries, Respiration, Digestion, Muscle and Nerve, Central Nervous System, and Internal Secretions. It is profusely illustrated, and makes a fine cultural addition to the physician's library.

WILLIAM S. COLLENS.

Sanatorium

SANATORIUM. By Donald Stewart. New York and London, Harper & Brothers, 1930. 306 pages. 12mo. Cloth, \$2.50.

This book is a novel;—not in the slightest degree a scientific presentation of life in a sanatorium. The author undoubtedly has had some first hand acquaintanceship with such an atmosphere and has succeeded to a considerable degree in interpreting and presenting it as an effective background for the development of his story. While the reviewer cannot agree with the somewhat extravagant reviews offered by far greater literary authorities than himself; nevertheless, it does unfold a rather interesting series of episodes calculated to inspire considerable interest, if not a little distrust, in such a community. From the technical standpoint, there are a few minor features which your reviewer could not find himself able to credit as likely to be a part of such a regime but after all, a novelist, like a poet, is permitted a certain latitude and we suppose we must not be too exacting.

We have read better novels and certainly believe that most sanatorium experiences lead to happier results than in the case of the hero in this story.

FOSTER MURRAY.

Modern Surgery

MODERN SURGERY: General and Operative. By John Chalmers Da Costa, M.D., LL.D. Assisted by Benjamin Lipshutz, M.D., F.A.C.S. Tenth edition. Philadelphia & London, W. B. Saunders Company, 1931. 1404 pages, illustrated. 8vo. Cloth, \$10.00.

The American physician needs no description of "Modern Surgery" (by John DaCosta). To state that the Tenth Edition has brought all matters up to date is sufficient.

This book is really a small encyclopedia on surgical matters, and contains over 1,400 pages. It serves equally well the surgeon and the practitioner. It is from the pen of the Dean of American medical authors, and one of the best beloved.

It is a fitting thing that we commend DaCosta for his effort on this Tenth Edition at a time in his life when age makes the labor doubly hard.

For nearly forty years this text has been a guide and a reference book for the medical profession. In its class it is still a leader. It pleases us to recommend it again, most highly.

ROBERT F. BARBER.

Principles and Practice of Perimetry

THE PRINCIPLES AND PRACTICE OF PERIMETRY. By Luther C. Peter, A.M., M.D. Third edition. Philadelphia, Lea & Febiger, 1931. 315 pages, illustrated. 8vo. Cloth, \$4.50.

That perimetry as a means to diagnosis in ophthalmology, neurology, and neuro-surgery is coming into its own at last, is evidenced not only by this third edition of a standard work, but also by the appearance of new editions of works on the same subject. Internal medicine would do well to seek the aid of perimetric studies as a means of collecting significant evidence, in obscure cases. This well worthwhile small volume would be ideal for the internist to use as a key to a much neglected aid.

"Principles and Practice of Perimetry" has been particularly addressed to the student, but it is well arranged for a step-up to the more elaborate study of the subject for the full fledged ophthalmologist. At the same time it provides a means for the rapid review of this or that problem. While any text-book is apt to accentuate one particular feature that may happen to be a hobby with the author, this one does not seem to be over stressed in the treatment of any one phase of the subject. Certain theoretical problems have been left without discussion. Perhaps more space could have been given to the mechanism of the production of scotomata, and perhaps quantitative perimetry could have been more broadly illustrated. Doubtless the author felt that the ripening influence of time was needed.

J. N. EVANS.

Text Book of Medical Jurisprudence

A TEXT-BOOK OF MEDICAL JURISPRUDENCE AND TOXICOLOGY. By John Glaister, M.D., D.P.H., in collaboration with John Glaister, Jr., M.B., Ch.B. Fifth edition. New York, William Wood & Company, 1931. 954 pages, illustrated. 8vo. Cloth, \$8.50.

The fact that this book by Glaister, who is professor of Forensic Medicine at the University of Glasgow, has already reached its fifth edition is proof of its intrinsic worth.

The second section of the book on Toxicology, will probably be of the greatest interest to the average practitioner. This phase of his subject is covered so well that it would be difficult for anyone to improve on it.

The chapter on wounds and head injuries should especially interest the surgeon. The only suggestion one might make to further increase the value of this scientific and useful treatise, is to elaborate the chapter on insanity. For psychiatry is daily becoming of greater importance in medico-legal work.

J. F. W. MEAGHER.

Race Psychology

RACE PSYCHOLOGY: A Study of Racial Mental Differences. By Thomas Russell Garth. New York, Whittlesey House, McGraw-Hill Book Company, Inc., 1931. 260 pages, 8vo. Cloth, \$2.50.

Professor Garth has made a most exhaustive compilation of the findings of investigators who have endeavored to compare racial mentalities and establish criteria by which to measure them. He lists a bibliography of 196 investigators dating back to 1881, and supplements their findings with extensive original research.

Are races of men mentally different? Popularly speaking, are Irishmen witty, Scotchmen canny, the Indian stoical, the Negro easy-going, the Chinaman industrious?

Or are the races of men not to be regarded as permanent entities and static, but mobile, dynamic, evolutionary or retrogressive? As Finot has asked, Is the history of civilization only a come and go of peoples and races?

These are the questions which Professor Garth has endeavored to clarify; one can draw no irrefutable conclusions, he says, for irrefutable data are lacking.

Professor Garth's work contains numerous graphs and tables of comparison. It will be of interest to psychologists, anthropologists, and laymen, as well, who desire to study racial personalities and permutations.

FREDERIC DAMRAU.

Manual of the Common Contagious Diseases

A MANUAL OF THE COMMON CONTAGIOUS DISEASES. By Philip Moen Stimson, A.B., M.D. Philadelphia, Lea & Febiger, 1931. 351 pages, illustrated. 8vo. Cloth, \$3.75.

This volume by Doctor Stimson is a clinical guide written for practitioners, specialists, health officers, school and industrial physicians, internes and nurses. It is the purpose of the author to provide in a compact form concise, comprehensive and helpful instructions for the handling of the more common contagious diseases. The material included is presented necessarily in a somewhat brief style, but in an interesting, clear and logical order, with a short bibliography at the end of each chapter. In addition to a consideration of the individual contagious diseases, the following important subjects are treated—the principles of contagion, serum reactions, and the general management of contagious diseases.

The book is published in an attractive form, with limp binding, and the printing is most excellently done. It is a most useful volume.

J. C. R.

The First Year of Life

THE FIRST YEAR OF LIFE. By Charlotte Bühler. Translated by Pearl Greenberg and Rowena Ripin. New York, John Day Company, 1930. 281 pages, illustrated. 8vo. Cloth, \$3.50.

The object of the author's study of the behavior of the infant during the first year of life was not only to obtain a complete picture of the latter but further to note individual reactions which might serve as standards for the average and normal development during this period.

60 children were studied, at least 5 for every month of the first year. These infants were observed 24 hours of the day and every reaction noted. The method of study of the child's behavior was to observe its performance—a period of inability to achieve success—then partial success and finally at a more advanced age, complete success. Negatively and positively directed reactions are discussed. The negative reactions are expressions of displeasure, and are an inclination toward flight and defense. Positive reactions on the contrary are expressions of pleasure.

Based on the above study, a series of tests have been worked out, month by month, for the first 2 years of life. These were checked by using them on 45 infants in the Children's Clearing House in Vienna. The author states "In all cases of children within the first year of life who were designated by the physician as physically well developed, the developmental age agreed with the chronological age. We found no child who showed developmental acceleration in the face of physical retardation or illness."

This book is a step forward in the direction of formulating a standard series of tests for the first year of life by means of which the progress of the newborn child may be followed.

STANLEY S. LAMM.

Aids to Bacteriology

AIDS TO BACTERIOLOGY. By William Partridge, F.I.C. Fifth edition. New York, William Wood and Company, 1931. 311 pages. 16mo. Cloth, \$1.75.

In this, the fifth edition, are embodied the description of numerous additional bacteria and alterations of previous chapters to conform with recent advances. Among the new diseases, for the first time described in this book, are the following: Tularemia, Melioidosis, Fright Disease, Canine gastro enteritis, Contagious gastro enteritis in Cats, "Yellows", Fowl Typhoid, Bacillary White Diarrhoea, Limberneck, Black Head, Avian Coccidiosis, Forage Poisoning and Fish Forunculosis. The author has adopted a classification elaborated by the Society of American Bacteriologists.

SILIK H. POLAYES.

Abnormal Psychology

ABNORMAL PSYCHOLOGY: Its Concepts and Theories. By H. L. Hollingworth, Ph.D. New York, Ronald Press Company, 1930. 590 pages. 8vo. Cloth, \$4.50. (Psychology Series).

The author is a well known psychologist who has broadened his sphere of activity beyond the ordinary boundaries of psychology. He claims to have had experience with the ordinary run of people who are generally described as abnormal. His book on Abnormal Psychology is the result of the urge to make the subject matter intelligible to the general reader, because of the marked social and personal value of such understanding. He treats of a subject that is usually understood by medical men as falling under the head of psychiatry. He contributes twenty-five chapters, dealing with all types of abnormal behavior, reviews the literature, gives abstracts from the representative schools, and adds a personal critical analysis. One who has worked extensively in psychiatry, must regard the book with a good deal of interest, as he is aroused from his self satisfying attitude that he alone is competent to discuss the underlying principles of the etiological factors in mental disorder. However,

BOOKS RECEIVED

Books received for review are acknowledged promptly in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgement of receipt has been made in this column.

SURGERY ITS PRINCIPLES AND PRACTICE FOR STUDENTS AND PRACTITIONERS. By Ascley Paston Cooper Ashhurst, A.B., M.D. Fourth edition. Philadelphia, Lea & Febiger, 1931. 1189 pages, illustrated. 8vo. Cloth, \$10.00.

HEMORRHOIDS THE INJECTION TREATMENT AND PRURITUS ANI. By Lawrence Goldbacher, M.D. Second edition. Philadelphia, F. A. Davis Company, 1931. 207 pages, illustrated. 8vo. Cloth, \$3.50.

THE PRACTICAL MEDICINE SERIES. Comprising Eight Volumes on the Year's Progress in Medicine and Surgery. Series 1930. Obstetrics. Edited by Joseph B. DeLee, A.M., M.D. and J. P. Greenhill, B.S., M.D.—Gynecology. Edited by John Osborn Polak, M.D. Chicago, The Year Book Publishers, 1931. 640 pages, illustrated. 12mo Cloth, \$2.50.

GASKAMPFSTOFFE UND GASVERGIFTUNGEN. Wie schützen wir uns? Von Univ.-Prof. Dr. Fessler, Gebele und Prandtl. München, Ärztlichen Rundschau Otto Gmelin, 1931. 65 pages, illustrated. 8vo. Paper, 2 Marks.

PRACTICAL DIETETICS FOR ADULTS AND CHILDREN IN HEALTH AND DISEASE. By Sanford Blum, A.B., M.S. Fourth edition. Philadelphia, F. A. Davis Company, 1931. 380 pages. 8vo. Cloth, \$4.00.

THE AFRICAN REPUBLIC OF LIBERIA AND THE BELGIAN CONGO BASED ON THE OBSERVATIONS MADE AND MATERIAL COLLECTED DURING THE HARVARD AFRICAN EXPEDITION 1926-1927. Edited by Richard P. Strong, M.D. 2 volumes. Cambridge,

Harvard University Press, 1930. 1064 pages, illustrated. 4to. Cloth, \$15.00. (Contributions from the Department of Tropical Medicine and the Institute for Tropical Biology and Medicine. No. V.)

LEHRBUCH DER KLINISCHEN UNTERSUCHUNGSMETHODEN FÜR STUDIERENDE UND PRAKTISCHE ÄRZTE. Von Prof. Dr. H. Sahli. 7. Auflage. II Band, 2 Hefte. Wien, Franz Deuticke, 1931. pp. 309-656, illustrated. 4to. Paper, 80 Marks.

DIAGNOSTIC METHODS AND INTERPRETATIONS IN INTERNAL MEDICINE. By Samuel A. Loewenberg, M.D., F.A.C.P. Second edition. Philadelphia, F. A. Davis Company, 1931. 1033 pages, illustrated. 8vo. Cloth, \$10.00.

THE TREATMENT OF ASTHMA. By A. H. Douthwaite, M.D., F.R.C.P. New York, William Wood & Company, 1931. 164 pages. 12mo Cloth, \$2.50.

NOGUCHI. By Gustav Eckstein. New York and London, Harper & Brothers, 1931. 419 pages, illustrated. 8vo. Cloth, \$5.00.

THE INTERNATIONAL MEDICAL ANNUAL: A Year Book of Treatment and Practitioner's Index, 49th Year, 1931. New York, William Wood & Company, (c. 1931). 551 pages, illustrated. 8vo. Cloth, \$6.00.

FOOD POISONING AND FOOD-BORNE INFECTION. By Edwin Oakes Jordan. Second edition. Chicago, The University of Chicago Press, 1931. 286 pages, illustrated. 12mo Cloth, \$3.50. (The University of Chicago Science Series.)

the author is rather a trifle hasty in calling it a slovenly attitude when psychiatrists claim the prerogative in extending their knowledge to all forms of maladjustment. It is just this attitude that is responsible for the advance in the last decade that has brought some reasonable and practical plans in the management of different fields of maladjustment. Furthermore, the author's rather frank admission as to his opinion of psychoanalysis, referring to it as a product of a religious cult, leads one to the inevitable conclusion that the author has an inadequate understanding of the subject, and surely, has not undergone a personal analysis.

IRVING J. SANDS.

Paralyse Generale et Malaria Therapie

PARALYSIE GENERALE ET MALARIA THERAPIE. By R. Leroy et G. Médakovich. Paris, G. Doin & Cie., 1931. 480 pages, illustrated. 8vo. Paper, 80 francs.

The ancients reported on the benefit of intermittent fever on mental disease. The use of malaria as a treatment for general paresis adds a new chapter to modern therapeutics.

The authors in the above monograph have summarized their experiences on the effects of malaria treatment in paresis. They have also made a very extensive survey of literature in this field, and reported the findings of the many workers in it.

The volume consists of some four hundred pages. It is well-written and will be found useful as a source of information and guidance to those men treating syphilis. An extensive bibliography is another feature of this publication.

HENRY M. FEINBLATT.

Brief History of Medicine in Massachusetts

A BRIEF HISTORY OF MEDICINE IN MASSACHUSETTS. By Henry R. Viets, M.D. Boston and New York, Houghton Mifflin Company, 1930. 194 pages, illustrated. 8vo. Cloth, \$4.00.

This volume is of special interest to students and practitioners of medicine who are desirous to obtain an adequate knowledge of the history of the development of medicine in the State of Massachusetts from the early colonial period until today.

It covers the period of the preacher physician and the early beginning of medicine under the apprenticeship system.

The separation of the influences of theology and the science of medicine is thoroughly depicted. The chapters on the development of medicine during the American revolution and the great advances made in the sciences of medicine to date are clearly surveyed and profusely illustrated.

Particularly interesting are the chapters on the discovery of anesthesia and descriptive biographies of the most prominent practitioners who contributed so much to the progress of the science of medicine in the State of Massachusetts.

The busy practitioner will find this book very interesting, easily read, and a valuable addition to his library.

WM. RACHLIN.

Recording and Reporting for Child Guidance Clinics

RECORDING AND REPORTING FOR CHILD GUIDANCE CLINICS. By Mary Augusta Clark. New York, The Commonwealth Fund, 1930. 151 pages, illustrated. 4to.

As the title indicates, this book is written for the purpose of making available to all child guidance clinics a practical system of service bookkeeping. It should be of value to those clinics already functioning and others in the process of organization.

STANLEY S. LAMM.

The American Journal of Cancer

THE AMERICAN JOURNAL OF CANCER. Edited by Francis Carter Wood. Vol. XV, No. 1, January, 1931. New York, The American Journal of Cancer, 1931. 561 pages, illustrated. 8vo. Subscription price in the United States \$5.00, in all other countries \$5.50.

"With the publication of this number, the Journal of Cancer Research appears under a new title, The American Journal of Cancer." "It offers to the profession at large a plan for the publication of articles without regard to length or number of illustrations."

This number has been carefully prepared and well illustrates the plan of the editors. The first half of the volume contains articles, contributed by men of repute, that deal with educational and statistical studies, medical and surgical aspects, histological and pathological characteristics, as well as experimental studies in Cancer. The excellence of articles like "The Cytology of Cancer" by Michael Levine, and "Epithelioma of the Lip" by the staff of the Memorial Hospital, will serve to awaken sufficient interest by the profession to guarantee the success of the Journal.

The second half of this issue is devoted to the review of recent books on cancer, and to abstracts of articles on cancer, arranged according to the nature of cancer—clinical studies and organ involved.

The enlarged Journal with the financial aid given by the Chemical Foundation will cover the entire field of cancer in its research, clinical, educational and public health aspects. We extend our congratulations upon the excellency of this initial issue of the new publication.

HARRY MANDELBAUM.

THE SURGICAL CLINICS OF NORTH AMERICA, VOL. 10, 1930.

SURGICAL CLINICS OF NORTH AMERICA, Vol. 10, 1930. Issued serially, one number every other month by the W. B. Saunders Company, Philadelphia and London. Per Clinic Year (6 nos.). Paper, \$12.00; Cloth, \$16.00.

Volume 10, Number 1 (Mayo Clinic Number), February, 1930.

The February 1930 number comes from the Mayo Clinic and contains many interesting features which are well up to the usual Mayo standard. Dr. Charles Mayo and Dr. Claude Dixon have an excellent short clinic on Ureteral Transplantation for Extrophy of the Bladder. Drs. Markowitz and Mann have a very excellent and practical research article about Cardiovascular Reflexes. This issue also contains many other interesting clinics.

Volume 10, Number 2 (Chicago Number), April, 1930.

The April 1930 number comes from Chicago and presents a practical series of clinics, the most noteworthy and practical being those of Dr. Arthur Dean Bevan, whose clinics are reported here in a readable and conversational manner that is easily understood. Dr. Frederick Christopher has a very fine clinic in which he reports and discusses an interesting series of surgical procedures. Dr. George M. Curtis has a very fine clinic on Intrathoracic Goiter. This subject is discussed and treated in a very scientific manner.

Volume 10, Number 3 (New York Number), June, 1930.

The June 1930 number comes from New York and contains a varied lot of clinics, ranging from Subarachnoid Block by Dr. Labat to Subcortical Mastoidectomy by Dr. Neer. Dr. Charles Murray Gratz has an interesting clinic on fractures in which

Pathologic Fractures are discussed in a very practical manner. Dr. Howard Lilienthal has an excellent clinic on Carbuncle of the Kidney. Dr. William Francis Honan gives a very good discussion of the modern surgical treatment of tuberculosis. These, with many other excellent clinics, make this volume one of the best of the year.

Volume 10, Number 4, (Southern Number), August, 1930.

August, 1930. This number of the Surgical Clinics comes from the South and contains many very practical and interesting clinics. It is difficult to isolate any specific clinic as being most outstanding as practically all branches of surgery are discussed. Dr. Brooks of Vanderbilt has a clinic on Aneurysm of the Axillary Artery. Dr. Haggard of Nashville has a very large clinic and discusses many interesting surgical problems. Dr. Irven Abell of Louisville has a very practical clinic on cardiospasm. The other clinics are equally good and from the South comes an excellent issue of the Surgical Clinics.

Volume 10, Number 5, (Pacific Coast Surgical Association Number), October, 1930.

The *October 1930* number of the Surgical Clinics comes from the Pacific Coast. It contains many interesting clinics from a very large group of surgeons along practically the entire Pacific Coast, and as far out in the Pacific Ocean as Honolulu. Dr. Judd of Honolulu presents three unusual cases of lymphatic infection. Elephantiasis is discussed in a very logical way. As well as these interesting clinics there are twenty-eight others dealing with surgical problems of practically the entire body. The Pacific Coast Surgical Association contribute a very worth while volume.

Volume 10, Number 6, (Philadelphia Number), December, 1930.

The *December 1930* issue of the Surgical Clinics contains, besides the yearly index of Volume 10, a series of clinics from Philadelphia. In the beginning of this number Dr. Deaver has an excellent and practical lecture on Cancer of the Rectum, and gives some very favorable reports on the Kraske operation for this condition. The Bronchoscopic and General Surgical Clinic of Drs. Jackson and Babcock contains many interesting cases and brings out the benefits to be derived from the use of the esophagoscope and surgically treating diverticulosis of the esophagus. Seven cases are illustrated and described. Dr. Temple Fay has a very practical clinic on management of tumors of the posterior fossa by the transtentorial approach. This number is well up to the usual Philadelphia standard.

HERBERT T. WIKLE.

Ophthalmology

(Concluded from page 226)

to protect the eyes from snow glare or other dazzling light. The glass should always be removed from the eye by a small rubber "sucker." Physiological saline solution should be used to aid the removal. With attention to these points in fitting contact glasses, the author has had few failures with their use. He has found them suitable for the treatment of many conditions besides ametropia, including serpentine ulceration of the cornea and many forms of keratitis, primary iritis, squint, and for persons needing correction who cannot wear spectacles for their work. Contact glasses that are colored (brown) are the best possible protection for the eye against dust, cold and heat; and are also valuable in the treatment of color blindness with its accompanying photophobia.

[This new form of eye glasses will be most welcome and will be worn by our patients provided they can be made so that they can be worn with comfort. They have many advantages over the present types of glasses. Dr. Heine does not think they would cause a great deal of damage to the eye if broken by a blow or flying body.—W. B. W.]

A New Operative Procedure in Glaucoma

W. F. Swett (*Archives of Ophthalmology*, 5:634, April, 1931) in a review of his operations for glaucoma found that a large percentage of his successful cases showed fragments of iris tissue in the cicatrix. He, therefore, revised his technique of iridectomy so as to incarcerate strips of iris tissue in the incision. A conjunctival flap is made above, but not dissected free down to the limbus. The incision into the anterior chamber is usually made with a keratome, or with a Graefe knife.

A moderate-sized iridectomy is done with De Wecker scissors, and the section of iris tissue removed is floated out on physiological saline. A small section of this tissue is picked up on a repositor and inserted into the anterior chamber so that it is held in the sharp angle of the incision as the edges of the wound come together. In successful cases this iris tissue produces a fistulating opening lined with pigment epithelium, establishing a permanent drainage fistula. The incarcerated tissue and the iris are not connected, and the pupil retains its original position, not being subjected to traction. The author has had better results with this method in the treatment of glaucoma than with any other operative technique. It is his practice to operate in glaucoma in any case in which "the continued and reasonable use of miotics fails to keep the tension in normal limits and the visual field in check."

[This operation appeals to me most strongly and I shall perform it on the next case that comes to me. It is a perfectly safe procedure and the steps are not complicated.—W. B. W.]

Cataract Operation in Extreme Old Age

R. H. Elliot (*British Medical Journal*, 1:132, January 24, 1931) reports that he has operated on 4 patients for the removal of cataract who were over ninety years of age, one just before the ninetieth birthday, and several between the ages of eighty and ninety years. The operation was successful in all these cases, vision was restored, and the patients enjoyed their return to vision. In none of these cases was the shock of the operation severe. The author is of the opinion that patients who live to an advanced age have "an extraordinary vitality" which renders them in reality better operative risks than some patients who are more frail and less resistant at the age of seventy years or less.

[I am convinced from my own experience that old age should not deter us from operating for cataract. We do not keep our patients in bed, in one position, as we did years ago. We get them out of bed on the second day if expedient. Therefore operate at any age provided there are no other complications.—W. B. W.]

So-Called Medical Complications of Pregnancy

Phil A. Daly and Solomon Strouse, Chicago (*Journal A. M. A.*, May 16, 1931), state that formerly, when the emphasis was placed on the obstetric point of view, there developed a paradoxical philosophy of therapy. A case of organic heart disease or of diabetes mellitus in which a surgical condition affecting the kidney developed remained primarily a medical case with surgical complications. But a woman with organic heart disease who became pregnant immediately was treated as a case of pregnancy with medical complications. This position no longer is tenable; on the contrary, the medical side of the combination should become the paramount issue, the pregnancy the complication. In their paper they maintain this thesis, using heart disease, disturbances of the thyroid gland and diabetes as illustrative examples to prove that the pregnant woman with so-called medical complications can be better studied, better diagnosed and better treated when the emphasis is placed on the medical aspect. For the purpose of more complete medical study, a ward in the Lying-In Hospital was obtained and outpatient clinics were established both in the hospital and in the dispensaries. In the out-patient work, every patient suspected of having the slightest aberration from the normal medical aspect was referred to the medical clinic. The obstetricians made no effort to determine whether a heart murmur was organic, nor would they make decisions regarding the significance of a glycosuria or a tachycardia. In the hospital the same principal was adopted—of referring to the medical clinic any abnormality. At no time was the obstetrician out of touch with the case, but the diagnostic and therapeutic controls were in the hands of the internist. It soon became apparent that under the new regimen better therapeutic results were obtained. And as the work went on it developed that certain of the clinical concepts concerning complications in pregnancy were based on erroneous ideas of both diagnosis and treatment.

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Colonel Lilly's original laboratory has grown into a group of twenty-five major buildings covering several city blocks. Scores of departments are quartered here. The research and control staff alone numbers more than seventy-five persons among whom are chemists, physicians, bacteriologists, and pharmacologists. A corps of forty devote all their time to research problems. After fifty-five years the Lilly Laboratories may truly be said to be an index to the aspirations and purposes of the company which in keeping with the spirit of medical research which led to the development of such products as Iletin (Insulin, Lilly), Liver Extracts, Amytal, and Sodium Amytal confines its efforts to the medical field and seeks recognition for its products solely through professional channels.

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Income from Medical Practice

From the study of 6,328 random reports of physicians from all parts of the United States, R. G. Leland, Chicago (*Journal A. M. A.*, May 16, 1931), makes the following observations: The median gross incomes for the entire group reporting lies in the range \$6,500-\$7,499. It appears that the largest annual gross incomes are being made by physicians who have had ten or more years of preparation. The low gross incomes fall among those physicians who have had three years or less of preparation. The peak of gross income seems to be reached somewhere in the period of fifteen to nineteen years in practice. The gross annual income for the period of five to nine years in practice and the long period of thirty-five to forty-nine years in practice appear to be closely parallel. Although the high average annual incomes for the entire group appears to be reached in the metropolitan areas of 1,000,000 and more population, the low gross averages fall in communities of 2,500 and less population. Orthopedic surgery, although furnishing only thirty-six reports, seems to be the most lucrative type of special practice for those physicians reporting gross incomes of \$30,500 and less. For the entire group, the highest average annual gross income shifts to surgery. The

lowest average for both groups is found in public health. Physicians in public health are principally on a salary basis and therefore the low position which they occupy in the income list is, in a measure, due to the fact that the list involves the comparison of gross incomes for many other physicians with principally net incomes for those in public health. The largest number of salaried physicians among those reporting for this study have had seven years or more of preparation. In the 6,328 reports studied, the per centage of physicians who derive all or most of their income from salary is largest in the population groups 10,000-25,000 and 500,000-1,000,000. Both the median and the average income of physicians whose income is derived wholly or for the most part from salary is found in the interval \$4,500-\$5,499 less than 4 per cent of the 853 physicians in the salary or primarily net income classification received more than \$12,500 in 1928. About 25 per cent reported income more than \$6,500; about 25 per cent reported income less than \$3,500. An estimated average net income of \$5,250 for general practice is based on the average gross income of \$7,781 derived in this study.

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- MT-178 "Sugar" by Beulah V. Gillaspie. A small booklet giving information on Sugar. The Sugar Institute, Inc.
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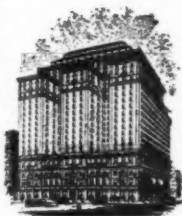
Almost from the dawn of surgery the cautery has been used for the searing and cutting of pathological tissues, especially with the object of preventing bleeding. It was in 1893 that Prof. Paul Oudin demonstrated in Paris the removal of superficial growths by high-frequency current, and for the last ten years surgeons in the United States and on the Continent have been using electrical cutting instruments carrying high-frequency current generated by modified radio-transmitters. In Germany the preference was for a current of about 8000 alternations which produced much coagulation, while American practice tended to concentrate on greater frequency with a more rapid cutting of the tissues. At the Erlangen Clinic Dr. R. Dyroff has recently been using a frequency of 50,000, with a technique much more closely resembling that of Harvey Cushing, in operating on regions where oozing of blood has in the past hindered the work of the surgeon. A discussion at the Royal Society of Medicine early this year, introduced by Mr. John Anderson of Dundee, suggested that the possibilities of these currents have not yet been fully exploited nor their properties known with any great accuracy. In this country until fairly recently, surgical diathermy has been used chiefly for the destruction of tumors in the bladder and the removal of malignant growths in the buccal cavity. With the development and production of machines which are capable of furnishing more rapidly alternating current than have hitherto been in existence it has become possible to use a fine-pointed electrode as a cutting instrument. So easily and with such a narrow zone of destruction on each side does it cause the tissues to part along the course it is made to travel, that the term "diathermy knife" has been coined to designate such an electrode. This severance of tissue by an electric arc, for the "knife" does not actually make contact with the part, has been held to have two great advantages—namely, the sealing of blood-vessels and limitation of hemorrhage, and a similar coagulation of the lymph spaces by which the spread of cancer cells may be blocked. A bloodless field immensely facilitates surgical work; it has prompted the use of a tourniquet for many limb operations and in gastrointestinal anastomoses. A method which would divide tissues without loss of blood and at the same time not necessitate interference with the circulation through neighboring areas would be enthusiastically practised by the ordinary surgeon.

This millennium, however, is not yet. Machines available

in this country furnish currents rather uncertain in their haemostatic properties. Capillary oozing is abolished, and this is on occasion a great advance, but bleeding remains free from any but the smallest vessels unless a layer of tissue is coagulated of undesirable thickness. Nevertheless, Harvey Cushing has demonstrated how otherwise irremovable tumors of the brain and its meninges can be eradicated by means of high-frequency cauterization. Patients faced with a terrible risk from blood loss have been carried safely through cranial operations which must in many cases have proved fatal if such measures had not been available. In other branches of surgery G. A. Wyeth has shown how malignant tumors can be eradicated by the arc in place of the knife. He also devised a method of permanently sealing vessels, temporarily controlled by Spencer Wells forceps, by sparking the high-frequency current through them before removal. This attractive method of operating upon carcinoma of the breast, for example, has not been very widely adopted in England, partly because healing does not seem invariably to be satisfactory afterwards and partly because surgeons have found the method of haemostasis by sparking to be not very trustworthy unless the arteries are very small. Moreover, the alleged great advantage of the diathermy knife, that it prevents malignant dissemination during dissection, is not such a cogent argument as might be thought. In modern surgery local recurrences after well-performed mammary excisions are quite uncommon.

Nevertheless, the claims made for this new method of operating amount to a strong case for a long and thorough trial of the method. Some of the difficulties which have been met with may be due to the use of inefficient apparatus, or lack of knowledge and experience. Mr. Anderson, who has worked with this technique for 16 years, stated at the meeting of the Royal Society of Medicine that he had only just begun to employ the Cushing-Bovie machine which, working as it does on multiple tungsten gaps, permits of a more exact dehydration of tissue. This enables the surgeon to calculate how thick a layer of any particular tissue he is prepared to coagulate without sacrificing primary union after the operation. It would facilitate the further trial of the method in this country were it possible to obtain a machine equally selective but less expensive and more portable. Otherwise the prognostication of New England surgeons, that in five years there will be few surgeons using the scalpel, is not likely to be realized.—*Lancet*, Nov. 1, 1930.

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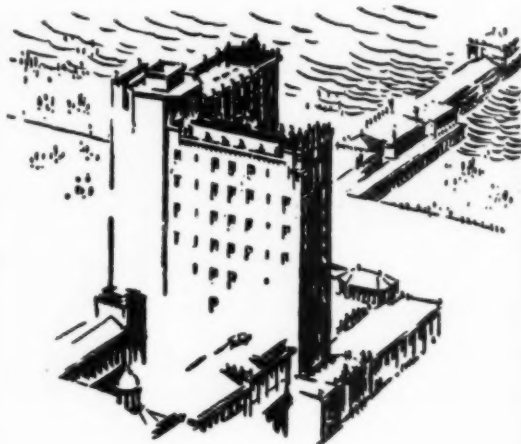
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The value of novasurol and salyrgan was discussed at a meeting of the Section of Therapeutics of the Royal Society of Medicine on December 9th, 1930, when Dr. Philip Hamill presided. Dr. Evan Bedford and Prof. F. R. Fraser were able to testify to the efficacy of novasurol as a diuretic, but Dr. Strickland Goodall thought that the reduction of oedema after its use is due to loss of fluid by way of the alimentary canal. Often, he said, this drug produces a severe toxic diarrhoea, and he handed round two specimens showing sections of gut in which the mucous membrane was inflamed and sloughing as a result of the exhibition of novasurol. Dr. Bedford, however, was able to give a reassuring account of salyrgan, which he had first begun to use 18 months ago, and which he regarded as considerably less toxic than novasurol. His method is to give 2 c.cm. of the 10 per cent solution diluted with 10 c.cm. of sterile saline, by intravenous injection; in this dilution he has never seen thrombosis of the vein following the introduction of the drug. In his opinion, it is unnecessary to stop digitalization while salyrgan is being given, and he always accompanies the treatment with grs. 15 of ammonium chloride given by mouth three times daily to aid diuretic action. Fluids should be restricted to daily intake of 3xx, to 3xxx. Using this technique, among 27 cases of cardiac failure with oedema he has only had three failures, and the three patients in question were moribund at the beginning of treatment. He quoted several of his cases in which the diuresis following salyrgan was marked; some of them lost 40 lbs. or more in weight in a month. So far, he said, no toxic effects have been observed, but he thinks the chief value of the remedy is in cases of cardiac oedema. Though it is supposed to act by diminishing the affinity of the tissue colloids for water and sodium chloride, there is some evidence that salyrgan also has a direct action on the kidney, and for that reason its use is less desirable in oedema due to nephritis. While none of the other speakers could produce quite such dramatic results as Dr. Bedford, several were able to quote cases where salyrgan had promoted diuresis and reduced the oedema in cardiac cases. Dr. D. H. Kotthoff, of Vienna, stated that many good results had followed its use among cardiac cases in Austria. It was agreed by the majority that both novasurol and salyrgan should be avoided in oedema of renal origin; but Dr. Izod Bennett held that, although they are dangerous where the kidney is seriously injured, in cases which show gross pitting oedema with a normal blood pressure and blood-

urea, salyrgan may be useful and is probably safe. Dr. Kotthoff shared this view. The use of salyrgan in the diagnosis of Ménière's disease was mentioned by Sir James Dundas-Grant and Dr. Warren Crowe; there is some evidence, Dr. Crowe said, that people with Ménière's disease have a mild degree of water retention, and that they react differently from normal persons on being given water and salyrgan together. The ultimate value of treatment by novasurol and salyrgan was discussed pessimistically by Prof. Fraser, who considered that those patients with heart failure serious enough to merit the treatment were so much wrecked in health as to profit little by the disappearance of oedema. Dr. Bedford, while sympathizing to some extent with Dr. Fraser's view, pointed out that the patients themselves place a high value on their increased comfort, even to the extent of attending regularly at the out-patient department for a weekly injection of salyrgan.—*The Lancet*, 1930, 2: 1306.

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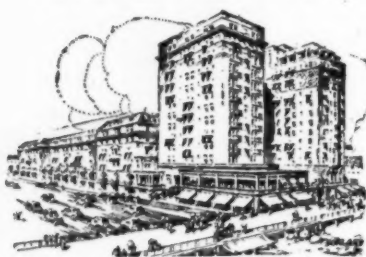
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Pathology of Sickle-Cell Anemia

Wallace M. Yater and Mario Mollari, Washington, D. C. (*Journal A. M. A.*, May 16, 1931), give the clinical history and postmortem observations in a case of sickle-cell anemia in which the patient died during an "abdominal crisis" apparently as the result of an arterial thrombosis of the liver. They state that the pathologic changes of sickle-cell anemia are distinctive, particularly as regards the spleen. The spleen becomes markedly atrophic, the pulp diminishes, the malpighian bodies disappear and calcium and iron incrustations are prominent. The liver and kidneys contain iron incrustations, and the kidneys also have calcium deposits in their tubules. The bone marrow is hyperplastic. The spleen plays more than a minor rôle in the disease; more splenectomies should be performed as early as possible in an effort to produce at least a symptomatic cure.

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Combined Use of Digitalis Bodies and Ephedrine Hydrochloride: Effect on Unanesthetized Dog

Carl A. Johnson and N. C. Gilbert, Chicago (*Journal A. M. A.*, May 16, 1931), describe experiments that they performed on unanesthetized dogs to determine whether the combined effect of digitalis bodies with ephedrine has any untoward effects. On the basis of the results obtained and from certain clinical observations, they conclude that undesirable or even dangerous effects are liable to occur. When digitalis is being used in the treatment of cardiac conditions, ephedrine should not be used or else should be used with extreme caution.

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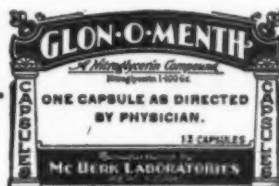
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Bromides and Gynecology

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Effects of Female Sex Hormone on Conception

Recently THE JOURNAL commented on some of the extraordinary developments in experimentation with a view to securing technics for the prevention of conception which would be free from the necessity of individual initiative or the employment of mechanical devices. The procedures concerned involved immunization by the use of extracts of sperm, feeding experiments with diets deficient in vitamin E, and the employment of extracts of ovary and corpus luteum. G. Lombard Kelly has just made available the results of experiments on guinea-pigs, made with a view to determining the effects of injections of the female sex hormone on conception and on pregnancy. It has been shown that the female sex hormone is the active agent in producing estrus and that injections of this hormone would throw even castrated animals into heat. In previous studies Kelly had found that injections of the serum from pregnant women would delay the onset of estrus in guinea-pigs, which was interpreted to mean an excess of corpus luteum in the blood of the woman during gestation. These observations would seem to indicate an antithetic action between the female sex hormone and the corpus luteum hormone. Experiments by Smith indicated that the injection of the female sex hormone into pregnant white rats would terminate the pregnancy if it had not exceeded five days. Other investigators also, using white mice, were able to prevent conception and to interrupt pregnancy at any stage with comparatively small doses of the sex hormone. In an attempt to confirm these observations on guinea-pigs, Kelly found that small doses of the female sex hormone injected for several days into female guinea-pigs immediately after exposure would prevent conception in all cases in which an adequate dosage was used. With a dose ten times as great it was possible to interrupt pregnancy in the animal when about two weeks pregnant, and with a dose fifteen times as great it was possible to terminate gestation after four weeks of pregnancy. In guinea-pigs pregnant from six to eight weeks, injections of dosages from thirty to a hundred times as great brought an end to the pregnancy and almost invariably caused the death of the mother. Notwithstanding intensive study, it was impossible to determine certainly the cause of death. Apparently the deaths were not due to the injected material for the simple reason that dosages six hundred times the dose necessary to prevent conception, when injected into male or nonpregnant female guinea-pigs were apparently not incompatible with life or health. Obviously these observations have a direct bearing on many factors concerned in sterility, the prevention of conception, abortion and similar subjects. No doubt further research will bring to light additional results of importance.—*Jour. A.M.A.*, May 16, 1931.

Mental Cases Increasing

During the period from 1880 to 1930, the rate of persons under care in State hospitals for the insane, alone, increased from 81 to more than 220 for each 100,000 of the general population.—*U. S. Pub. Health Service Report.*

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The Danger of Intrauterine Pessaries

K. Tietze, Women's Univ. Clinic, Kiel. (*Deutsche medizin. Wochenschrift*, No. 31, 1930). This danger has been pointed out repeatedly in medical literature; nevertheless these obnoxious instruments seem to be in frequent use still; they are even offered for sale by travelling hawkers. The author reports on 7 recent cases of serious injury from intrauterine pessaries, 6 of which were admitted to the clinic in one year. It was usually a case of purulent inflammation of the adnexa with or without peritonitis. Four of the seven women succumbed to the infection; one of them suffered from isolated actinomycosis of the genitalia and we may conclude that the intrauterine pessary had been the means of introduction of the excitant germs.—*Arts Medici*, Vienna.

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D. A. Thom insists that, in the non-institutional treatment of epilepsy, every effort should be made to determine by a careful clinical examination and the application of laboratory tests, X-ray examinations, and all other available methods, such physical, biochemical, and psychogenic factors that may directly or indirectly cause, aggravate, or perpetuate the convulsions, bearing in mind that such organic factors can only be eliminated insofar as it is compatible with the patient's general, physical and mental well-being. The practitioner should discuss his findings frankly with the patient. The results of a time-consuming, oftentimes disconcerting and expensive examination, from which he is seeking relief and to which he is pinning his hopes for the future, are of vital importance to him. With equal frankness the patient's incapacity in relation to his future happiness and efficiency should be discussed—and what the patient can reasonably expect from therapy, whether it be an operation, the administration of drugs, dietetic measures, or whatever else may be indicated, there must be pointed out what can be expected by proper adjustment of certain physiological conditions which are working out to the disadvantage of the patient, such as regulating life habits—sleep, diet, bowels, sex, exercise, work, social activities—stressing the fact that any one or more of these factors may play an important part in reducing or eliminating the convulsions. The practitioner must create optimism instead of pessimism wherever justified, which means in all cases where intellectual deterioration and psychotic symptoms are not present. Careful attention must be given to the question of selection of vocation, and the type of education which is most likely to work out to the patient's advantage.—(*American Journal of Psychiatry*, January, 1931, x, 4, p. 623.)

Kicker

It is supposed to have happened when Peggy Joyce was having her appendix trouble at a private hospital here.

A male patient across the hall was about to be discharged. He received a stiff bill. "Here, here," he complained to the doctor, "this is outrageous! It is too expensive."

"You have a cheek to complain about the price," snapped the physician. "Do you realize we placed you practically next door to Peggy Joyce?"

"Gosh!" groaned the fellow, "for that much money I should have been in the same room with her!"—*New York Mirror*.

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